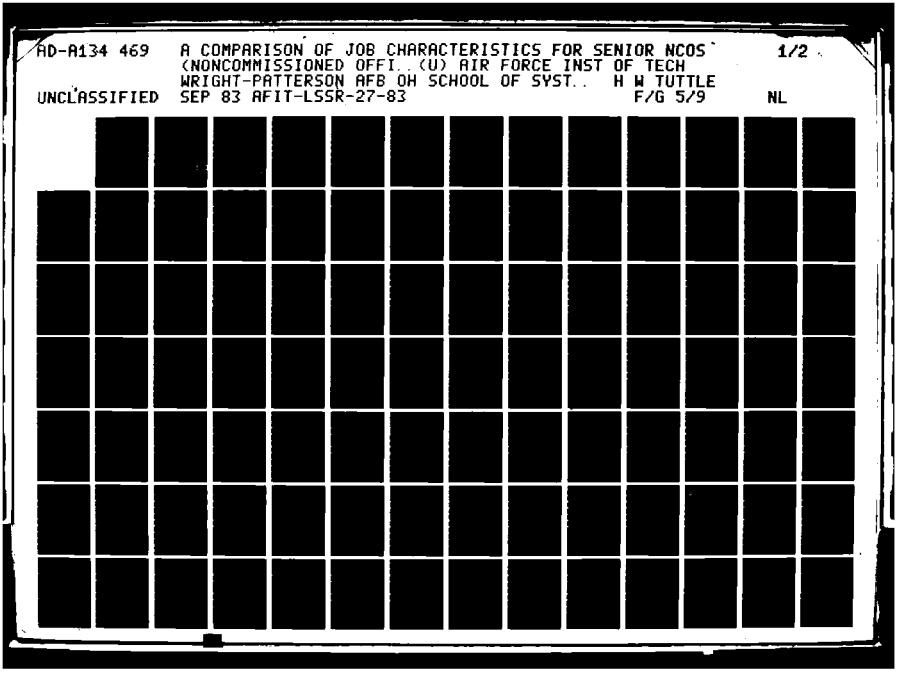
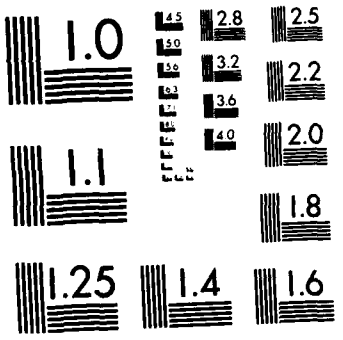

AD-A134 469 A COMPARISON OF JOB CHARACTERISTICS FOR SENIOR NCOS (NONCOMMISSIONED OFFI.. (U) AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF SYST.. H W TUTTLE
1/2
UNCLASSIFIED SEP 83 AFIT-LSSR-27-83 F/G 5/9 NL



A COMPARISON OF JOB CHARACTERISTICS FOR SENIOR NCOS WITHIN CIVIL ENGINEERING: CONUS VERSUS OVERSEAS BASES

Howard W. Tuttle, Captain, USAF

LSSR 27-83

DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY
AIR FORCE INSTITUTE OF TECHNOLOGY

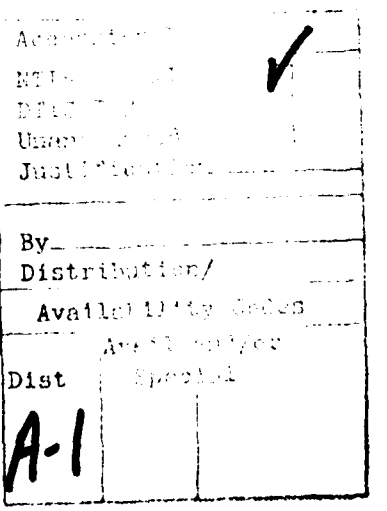
Wright-Patterson Air Force Base, Ohio

A COMPARISON OF JOB CHARACTERISTICS FOR SENIOR NCOS WITHIN CIVIL ENGINEERING: CONUS VERSUS OVERSEAS BASES

Howard W. Tuttle, Captain, USAF

LSSR 27-83

The contents of the document are technically accurate, and no sensitive items, detrimental ideas, or deleterious information are contained therein. Furthermore, the views expressed in the document are those of the author(s) and do not necessarily reflect the views of the School of Systems and Logistics, the Air University, the Air Training Command, the United States Air Force, or the Department of Defense.



UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER LSSR 27-83	2. GOVT ACCESSION NO. AD-A134 469	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) A COMPARISON OF JOB CHARACTERISTICS FOR SENIOR NCOS WITHIN CIVIL ENGINEERING: CONUS VERSUS OVERSEAS BASES		5. TYPE OF REPORT & PERIOD COVERED Master's Thesis 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Howard W. Tuttle, Captain, USAF		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS School of Systems and Logistics Air Force Institute of Technology, WPAFB OH		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Department of Communication AFIT/LSH, WPAFB OH 45433		12. REPORT DATE September 1983 13. NUMBER OF PAGES 108
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

Approved for public release: IAW AFR 190-17.

LYNN E. WOLAVER
Dean for Research and Professional Development
Air Force Institute of Technology (ATC)
Wright-Patterson AFB OH 45433

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Job Characteristics
Civil Engineering
Senior NCOs
Motivation
Job Satisfaction

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Thesis Chairman: Alan E. M. Tucker, Major, USAF

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

This research tested the perception that overseas Civil Engineering senior NCO job positions contain higher levels of the five core job dimensions and create higher levels of satisfaction and motivation than the same CONUS job positions. The study also attempted to determine which MAJCOM overseas senior NCOs believed utilized their potential best and what they perceived the future level of senior NCO jobs would be. Data were collected from 260 senior NCOs serving in Civil Engineering Squadrons located overseas in PACAF and USAFE commands using the JDS. The data were analyzed and compared to previously collected data for CONUS senior NCOs. Results show that significant differences exist in the MPS between overseas and CONUS senior NCOs occupying unit and assistant unit supervisor job positions. A statistical difference was also found in the satisfaction scores for assistant supervisors. The job dimension responsible for the increased MPS and satisfaction scores for overseas senior NCOs was autonomy. It was revealed that overseas NCOs do believe that overseas MAJCOMs utilize their potential best though support for this perception was not overwhelming. The study also discovered that senior NCOs are pessimistic about what the future level of job characteristics will be for their jobs.

LSSR 27-83

A COMPARISON OF JOB CHARACTERISTICS FOR SENIOR NCOS WITHIN CIVIL ENGINEERING: CONUS VERSUS OVERSEAS BASES

A Thesis

Presented to the Faculty of the School of Systems and Logistics

of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the Requirement for the

Degree of Master of Science in Engineering Management

By

Howard W. Tuttle, BSCE
Captain, USAF

September 1983

This thesis, written by

Captain Howard W. Tuttle

has been accepted by the undersigned on behalf of the faculty of the School of Systems and Logistics in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN ENGINEERING MANAGEMENT

DATE: 28 September 1983

COMMITTEE CHAIRMAN

READER

ACKNOWLEDGMENTS

I wish to express great appreciation to Major Alan E. M. Tucker and Doctor Robert P. Steel whose advice and support were instrumental in the successful completion of this study.

I also wish to recognize the support of Doctor Charles R. Fenno, whose efforts in obtaining the names and addresses of the subjects for this study were invaluable. A special thanks also goes to Captain Richard D. McKnight whose assistance in preparing the surveys and data was extremely helpful.

Finally, I wish to express my deepest appreciation to Mrs. Dee Babiarz whose understanding and typing support was miraculous. Without her efforts, the completion of this thesis would not have been possible.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Chapter 1

INTRODUCTION

There are indications that there are important differences between the characteristics of similar Air Force jobs for CONUS (continental United States) based personnel and overseas based personnel. These differences appear to be related to the job environment and levels of responsibility that an individual experiences (Peters and Duke, 1982). In particular, senior noncommissioned officers (NCOs) returning from an overseas assignment frequently express disillusionment with their CONUS job positions. Many claim that overseas job positions are more motivating and satisfying than the same job positions within the CONUS. Within CONUS, they believe their talents are not being adequately or optimally utilized and their professional growth becomes stagnated (Peters and Duke, 1982).

The manner in which contemporary jobs are designed has a significant impact on employee motivation, satisfaction, and performance (Katz, 1978). With the continued emphasis of "doing more with less," it is critical that everybody within the Air Force perform at the level necessary to maintain readiness and efficient organizations. It has been suggested that job satisfaction is directly related to job turnover, absenteeism, and accidents

(Locke, 1970). The Air Force continues to have difficulty retaining senior NCOs (Master Sergeants, Senior Master Sergeants and Chief Master Sergeants), thereby loosing valuable and sometimes difficult to replace knowledge and skills. The present economic recession has served as a blanket to cover up the retention problem, but it still exists.

Senior NCOs have a significant influence on the attitudes and perceptions of junior enlisted personnel. It is vital that senior NCOs provide the motivation and set the proper example of what is required and expected of the enlisted ranks. It is the responsibility of organizational managers to make sure that senior NCOs set the proper example by providing motivating and satisfying jobs.

Consequently, it would be beneficial to determine if differences actually do exist between CONUS and overseas job positions, and if overseas job positions do provide more motivation and satisfaction as perceived by senior NCOs.

Background

Peters and Duke's (1982) thesis, "Analysis of Senior Noncommissioned Officer Job Positions in Base Level Civil Engineering," was the first attempt to specifically study the job characteristics relevant to senior NCOs within the Air Force Base Civil Engineering organizations. Their thesis, however, was limited to job positions within the CONUS and to date, a specific study has not been conducted for senior NCOs stationed overseas.

Within base level civil engineering, there are a number of job positions that senior NCOs occupy. The job positions of interest for this thesis are unit supervisors, operations and maintenance superintendents, Prime BEEF (base engineering emergency forces) NCOs, fire protection NCOs, and assistant supervisors. All of the positions are filled by senior NCOs stationed in overseas civil engineering organizations. The following is a brief discussion of each relevant position:

1. Unit Supervisors. Unit supervisors are required for various branches and sections throughout the civil engineering squadron. Typically, NCOs fill shop foreman positions in the Operations Branch. Shop foremen assigned to the Operations Branch are responsible for front line supervision of shops consisting of specifically skilled craftsmen. Typical base civil engineering shops consist of water and waste shops, electrical shops (interior and exterior), mechanical shops (refrigeration, liquid fuels, and heating shops), structural shops (carpentry, masonry, plumbing, metal working, and painting), and pavements and grounds shops. Other positions filled by senior NCOs assigned to the Operations Branch are located within the Resources and Requirements section (material control, planning, and scheduling). Senior NCOs are also assigned to other civil engineering branches such as the Engineering and Environmental and Industrial Engineering Branch. However, they do

not usually fill top management positions in the branches except for overseas locations.

2. Operations Superintendents. Second-line supervision for enlisted personnel assigned within Operations' branch shops is provided by Operations superintendents. Typical superintendent job positions are in the electrical, mechanical, structural, sanitation, and pavement and grounds sections.

3. Prime BEEF NCOs. Prime BEEF NCOs are responsible for managing the squadron's Prime BEEF program. This position is unique in that the NCO has few people working for him, yet is responsible for assigning every member of the squadron to a Prime BEEF team and ensuring that they receive proper training and equipment.

4. Fire Protection NCOs. The fire protection branch is one of the most critical life support functions on a base. Fire protection NCOs fill positions of superintendents (in charge of the whole branch), assistant superintendents and unit supervisors.

5. Assistant Supervisors. Many senior NCOs occupy assistant supervisor positions within the Operations, Industrial Engineering, and Engineering and Environmental branches.

Problem Statement

Many senior NCOs believe their CONUS job positions do not provide sufficient responsibility and autonomy.

However, this author and Peters and Duke have found that it is a common belief that senior NCOs in similar non-CONUS jobs feel more favorable toward their jobs. They appear to base their belief on experienced differences between overseas and CONUS assignments and claim that CONUS assignments are deficient in the job characteristics necessary to provide adequate motivation and satisfaction. However, what differences exist between overseas and CONUS assignments are not documented nor have they been researched.

Research Objective and Scope

The purpose of this thesis is to determine if there are significant differences in job characteristics between CONUS and overseas job positions for senior NCOs (Master Sergeant through Chief Master Sergeant) in the Base Civil Engineering Squadrons. This investigation will compare the job characteristics of senior NCOs stationed at Civil Engineering Squadrons under the Pacific Air Command and European Air Command with the job characteristics for CONUS based senior NCOs provided by the Peters and Duke (1982) thesis.

Research Questions

The following research questions will be studied using Hackman and Oldham's Job Characteristics Model (Chapter 2) as the basis of defining job characteristics and its measurement tool, the Job Diagnostic Survey (JDS):

1. Is there a significant difference between the Motivation Potential Scores (MPS) of CONUS senior NCO job positions and overseas senior NCO job positions?

This question was asked to determine if there was a significant difference between the motivation experienced by overseas NCO and CONUS NCO job positions. It was anticipated that overseas senior NCO job positions provide more motivation than CONUS job positions. The more motivated an individual is, the more effort he is expected to expend and the greater his job performance will be (Mitchell, 1982).

2. Is there a significant difference between the satisfaction values of CONUS based senior NCO job positions and overseas based senior NCO job positions?

This question was posed to determine if overseas senior NCOs were more satisfied with their jobs than CONUS senior NCOs. It was anticipated that overseas NCOs would be significantly more satisfied than their CONUS counterparts. Though satisfaction may not be a direct indication of performance, it is directly related to job turnover, absenteeism, and accidents (Locke, 1970).

3. If there is a difference between the MPS or satisfaction values, is there a significant difference between the job characteristics (skill variety, task significance, task identity, autonomy, and feedback) and, if so, what characteristics are different?

This question was posed to determine what job characteristics cause a difference in the MPS or satisfaction values between overseas senior NCO job positions

and CONUS senior NCO job positions. According to Hackman and Oldham's Job Characteristics Model, the core job characteristics create psychological states that create certain outcomes, which include satisfaction and motivation (Chapter 2). The motivation values, however, may not reveal the fact that there are significant differences between separate task characteristics. For this reason, each task characteristic must be checked for each job position.

4. Do overseas based senior NCOs believe that a certain major command utilizes the potential of senior NCOs best?

This question was asked to determine if overseas senior NCOs perceive that certain Major Commands utilize the potential of senior NCOs better than others. Based on experience, the author anticipated that the respondents believe that overseas commands (PACAF and USAFE) utilize their potential better than other commands.

Chapter 2

THE JOB CHARACTERISTICS MODEL

In order to compare the job characteristics of CONUS senior NCO job positions and overseas senior NCO job positions, a proper representation of each job position must be derived. One of the most tested and proven approaches to modeling job characteristics is the Hackman and Oldham's job characteristics model (Roberts and Glick, 1981). The model diagnoses job strengths and weaknesses through its measurement instrument -- the Job Diagnostic Survey (JDS). The results of the JDS can then be applied to redesigning those weaknesses found in existing job structures.

Model Concepts

The job characteristics model developed by Hackman and Oldham (1976) is based on five "core" job dimensions which instigate three critical psychological states. The three psychological states (experienced meaningfulness of the work, experienced responsibility for the outcomes of the work, and knowledge of the results) are the "causal core of the model" (Hackman and Oldham, 1976). The psychological states determine the personal outcomes (motivation, performance, satisfaction, absenteeism and turnover) and work outcomes (job performance). The authors state that

all three psychological states must be present for positive outcomes to occur. Employee growth need strength (individual need for personal growth and development at work) is a moderating variable that influences the model in varying degrees at varying stages. The job characteristics model is depicted in Figure 1.

Core Job Dimensions

The critical psychological states depend on the degree to which the five core job characteristics are present in the structure of the job. For clarity, the core job characteristics are defined as follows:

1. Skill Variety: The degree to which a job requires a variety of different activities in carrying out the work, involving the use of a number of different skills and talents of the person.

2. Task Identity: The degree to which a job requires completion of a whole and identifiable piece of work, that is, doing a job from beginning to end with a visible outcome.

3. Task Significance: The degree to which the job has a substantial impact on the lives of other people, whether those people are in the immediate organization or in the world at large.

4. Autonomy: The degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out.

5. Job Feedback: The degree to which carrying out the work activities required by the job provides the individual with direct and clear information about the effectiveness

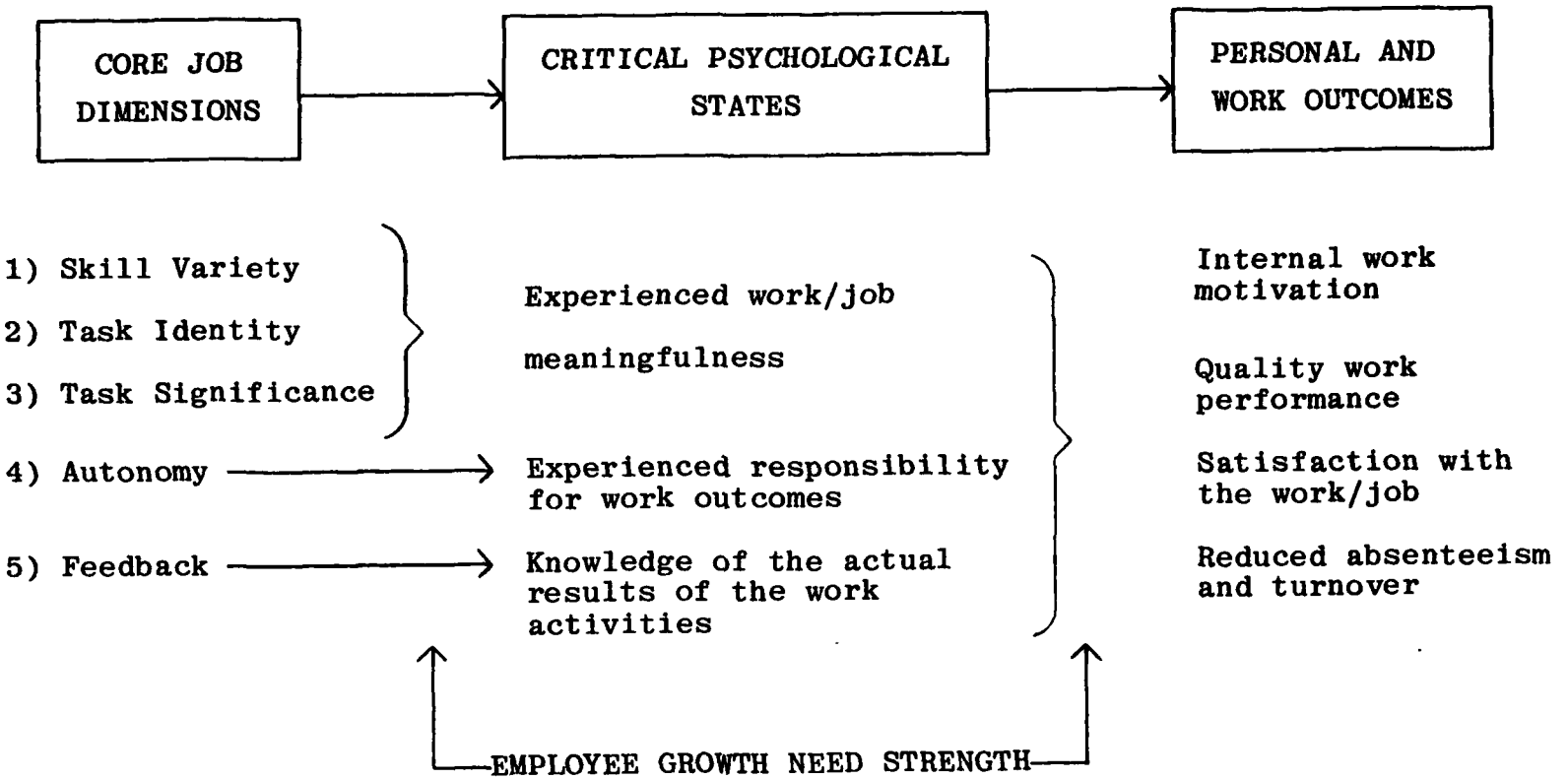


Figure 1. The Job Characteristics Model

(Hackman and Oldham, 1975, p. 161)

of his or her performance. (Hackman and Oldham, 1975)

Psychological States

The combined effects of skill variety, task identity and task significance determine the degree workers experience job/work meaningfulness. Hackman and Oldham define "experienced meaningfulness of the work" as:

> The degree to which the employee experiences the job as one which is generally meaningful, valuable, and worthwhile (Hackman and Oldham, 1975).

The amount of autonomy present on the job effects how much responsibility the employee actually has for ensuring the appropriate outcomes. Hackman and Oldham define "experienced responsibility for work outcomes" as:

> The degree to which the employee feels personally accountable and responsible for the results of the work he or she does (Hackman and Oldham, 1975).

Many behavioral scientists advocate the need for feedback to be provided to the employee (Albanese, 1981). Proper feedback is a source of immediate inexpensive motivation. It also, of course, insures that the individual is aware of what is expected from him and what constitutes "good" or satisfactory job performance. Thus, the third psychological state of the job characteristics model, "knowledge of results" is defined as:

> The degree to which the employee knows and understands, on a continuous basis, how effectively he or she is performing the job (Hackman and Oldham, 1975).

Personal and Work Outcomes

As previously stated, the five core dimensions and three psychological states determine the personal and work outcomes specified in the model as motivation, satisfaction, performance, and absenteeism and turnover. One of the basic principles of designing/redesigning a job is that the structure/design of the job will create conditions conducive to increasing job satisfaction. Though the actual causal relationship between job satisfaction and job performance is still being debated, many behavioral scientists believe a positive correlation exists (Sutermeister, 1971). It has, however, been discovered that job satisfaction is directly related with job turnover, absenteeism and accidents (Locke, 1970).

Job performance is believed to be directly related to job motivation. Increases in motivation should result in employees exerting greater effort and thus resulting in higher performance (Mitchell, 1982). The five core job dimensions of the job characteristics model are variables that are used to develop a quantitative Motivating Potential Score (MPS). The MPS measures the degree to which each dimension is present in the job structure and weighs each according to its importance. The MPS equation is depicted as follows (Hackman and Oldham, 1975):

$$\text{Motivating Potential Score} = \frac{\text{Skill Variety} + \text{Task Identity} + \text{Task Significance}}{3} \times (\text{Autonomy}) \times (\text{Feedback})$$

The Job Diagnostic Survey

Hackman and Oldham designed the JDS to quantitatively measure each of the constructs specified in the job characteristics model (the five core dimensions, the three psychological states, the growth need strength, motivation and job satisfaction, both general overall satisfaction and specific satisfactions). The scoring guide used to convert responses from the JDS to quantitative measures is provided in Chapter 3. The JDS has generally received favorable reception from behavioral scientists but does, however, have its limitations that its designers are quick to reveal. The most obvious is that like all surveys, its validity relies on truthful responses from the sample population (Hackman and Oldham, 1975). In addition, it must be insured that the subjects possess adequate literacy to properly complete the survey. An experiment conducted using textile workers for respondents produced substantially different results from the norm because the survey was too complex for the subjects to properly comprehend (Green, Armenakis, Marbert and Bedeian, 1979). Hackman and Oldham do not recommend the use of the JDS for individuals with an eighth grade education or less, or who do not read English well (Hackman and Oldham, 1975). Third, Arnold and House (1980) question the validity of the measurement of the growth need strength provided by the JDS. Another problem is that the job characteristics are not independent of each other and

care must be taken not to misinterpret the effects of constructs analyzed singularly and separately from the job context (O'Reilly, Parlette and Bloom, 1980). Hackman and Oldham also state that the job characteristics model was designed for independently operated jobs and not for group tasks (Hackman and Oldham, 1976).

Research On the Model

Hackman and Oldham initially tested their job characteristics model in an experiment using 658 employees occupying 62 different jobs in seven organizations. The subjects included blue-collar, white-collar, and professional workers.

> Additional assessments of the characteristics of each job were obtained from supervisors of the focal job and from the researchers--providing three independent sources of data about each job. The data from supervisors and researchers were obtained using the Job Rating Form. (Hackman and Oldham, 1975, p. 163)

The resulting internal consistency reliabilities ranged from .88 for growth need strength to .56 for social satisfaction with the internal consistency reliabilities having a mode of .70. The results indicated that both the "internal consistency reliability of the scales and the discriminant validity of the items are satisfactory." (Hackman and Oldham, 1975) The job dimensions were found to be positively related to the measures of work satisfaction and motivation. Also, the critical psychological states were "strongly" related to the five core job dimensions, thus supporting the model's design.

In a follow-up report of the initial study, Hackman and Oldham (1976) concentrated on the growth need strengths and work motivation aspects of the job characteristics model. They predicted that individuals with high growth needs will respond more positively to a job high in motivating potential than individuals with low growth need strengths. Except for the measurements of the outcome, absenteeism, the correlation for high versus low growth need strength individuals were all in the predicted direction and statistically significant. Special emphasis was given to the measurements of work motivation "because it taps directly the contingency between effective performance and self-administered affective rewards." (Hackman and Oldham, 1976). Five different models for combining the job dimensions were developed and examined to determine the most reliable combination for predicting the three dependent variables of the model (internal motivation, general satisfaction, and growth satisfaction). The results revealed no meaningful difference between the models except that the multiplicative model proved to be the worst. The authors concluded that though the model-specified MPS equation proved to be the best in the comparison with more complex formulations, it was not substantially better than simpler formulations. Therefore, as a measurement instrument, the authors claim the model-specified MPS formulation is "valid to the extent that the model itself has validity" (Hackman and Oldham, 1976, p. 273).

Similar to the Hackman and Oldham study, Dunham conducted a study to determine the most appropriate model for combining the job dimensions and to empirically examine the dimensionality of task design. Data were collected from 3,610 white-collar workers from a large merchandising corporation using the JDS. Dunham found that the MPS, for this particular study, could be accurately explained using a simple additive model of JDS scores. He also discovered that three of the five task characteristics could be defined clearly but the task identity and autonomy dimensions could not be differentiated. Dunham concluded that the JDS defined a good four-factor solution and the task identity and autonomy dimensions should be combined to create the fourth factor representing job complexity (Dunham, 1976).

Dunham, Aldag, and Brief (1977) reexamined the dimensionality of the JDS factors using 20 subsamples derived from 5,945 workers from five different organizations occupying a wide variety of jobs. "Oblimax rotations were made for five-, four-, three-, and two-factor solutions" for each subsample and the combined sample (Dunham, et al, 1977). The authors discovered that seven subsets defined a five-factor solution, six subsets defined a four-factor solution, five subsets defined a three-factor solution and two subsets defined a two-factor solution. They also found that the definition of autonomy items was perfect in five samples, good in five samples, marginal in six and poor in

four samples. Variety items were perfect in seven samples, good in one, marginal in three and poor in nine samples. Identity items were defined perfectly in nine samples, good in seven, marginal in one, and poor in three samples. Significance items were perfect in five samples, good in seven, marginal in one, and poor in seven samples. The feedback items were perfectly defined in 13 samples, good in two, and poor in five samples. (Dunham, et al, 1977) The authors concluded that, "with a somewhat relaxed criteria," the five-factor solution proposed by Hackman and Oldham was the one most identified. The authors cautioned, however, that individual differences effect the JDS scores because it provides measures of perceived task design and organizational design characteristics can also effect the job dimensions.

O'Reilly, Parlette, and Bloom (1980) discovered during a study of 76 nurses, that an individual's frame of reference and job attitudes can bias the responses of the JDS. The differences appear to stem "from the overall satisfaction with the job, resulting in more satisfied workers reporting the task as being motivating" (O'Reilly, et al, 1980, p. 129). The authors state that the findings from previous studies may actually reflect, not the impact of objective task characteristics, but more satisfied workers reporting that their jobs possess more desirable attributes.

Oldham, Hackman and Pearce (1976) examined the moderating effects of individual growth need strengths and work satisfaction on the relationship between the MPS and internal work motivation and productivity. Data was collected from 201 employees who worked on 25 clerical jobs. They discovered that

> . . . the relationships between the MPS and the outcome measures (with the exception of internal motivation) for employees with high growth needs were substantially higher than the same relationships for all employees in the sample (Oldham, et al, 1976, p. 399).

The results also showed that the MPS and the outcome measures for individuals satisfied with their work were positive and significantly greater than those not experiencing work satisfaction. The authors also found that employees tended to respond more positively to complex, challenging work when they experienced work satisfaction.

Baird (1976) conducted a study to investigate the effect stimulating versus nonstimulating jobs had on satisfaction. He collected data from 214 employees of a large state agency whose jobs ranged from administrative to clerical positions. Measures of the stimulating characteristics of the job were conducted by three observers and the individual subjects using the Job Diagnostic Survey (JDS). The observers studied the jobs for a week and filled out rating forms. The intercorrelations for the observer-rated and employee-rated dimensions were high providing evidence of validity for the JDS. The experiment discovered that

"satisfaction with work was higher for those with stimulating jobs than for those with nonstimulating jobs. Also, high performers were more satisfied than low performers" (Baird, 1976, p. 724). The conclusion derived from Baird's experiment was that performance can be increased by providing more variety and challenge for the employee.

Wall, Clegg, and Jackson (1978) conducted a study to evaluate the job characteristics model on a homogeneous sample (as opposed to heterogeneous samples used to develop the model) and to validate the model using various analytical techniques. Data was collected using the JDS from 47 employees that worked in a production department. Analysis of the data by zero-order correlation, stepwise multiple regression and path analysis replicated Hackman and Oldham's (1976) original results and provided additional validity to the Job Characteristics Model. The authors concluded that the findings provided "equal support showing that it can be as valid in the limited range as it is with the large heterogeneous sample on which it was developed" (Wall, et al, 1978).

Evans, Kiggundu, and House (1979) performed a partial test of the job characteristics model and presented an attempt to "reintroduce expectancy theory notations" into job design (Evans, et al, 1979). The authors hypothesized that specific relations existed between the model's core job dimensions and the effort→performance→rewards path in expectancy theory. The JDS was used to provide data from 343 assembly line

supervisors and managers employed in a large automobile assembly plant. All the relationships predicted by the model were supported by the results. The direction of the relationships and the statistical significance of the relationships (though the values were low) were all verified except for growth need strength which was found to be unrelated to the core job characteristics. The study also showed that the job dimensions were significantly correlated with expectancy theory outcomes (E_1) and thus additional support was added to the rationale of the model. Significant unmoderated relationships with the effort→performance expectancy were discovered as were significant relationships between the job dimensions and personal outcomes.

Griffin (1981) investigated the longitudinal stability of individual perceptions of task characteristics and individual reactions to those perceptions. Data were collected (twice) three months apart from 107 employees of a manufacturing plant. "Evidence for the absolute stability of task characteristics perceptions was found in the monotrait-heterotime diagonal" (Griffin, 1981). All correlations among the four task characteristics used (variety, autonomy, feedback, and identity) both within and across time points were significant with a high correlation value of .80 and a low of .70. The author, therefore, claimed that evidence supports the proposition that task characteristics perception are somewhat stable (since the time differential

studied was only three months). No significant correlations were found between task characteristics and productivity at either time. All four task characteristics were, however, significantly correlated with job satisfaction at both time points.

Intrigued with the lack of significant correlations obtained in his study, Griffin, Welsh and Moorhead (1981) conducted a literature review on the relationship between perceived task characteristics and employee performance. In reviewing 13 studies, they found that the results were contradictory and inconclusive because most of the studies used "less than adequate measures of employee performance" (Griffin, et al, 1981). Support for a task design/performance relationship was obtained from field surveys but not from experimental studies.

In an attempt to clear up the controversy, Griffin performed another study using data collected from 100 randomly selected employees from a manufacturing firm. He discovered that task variety, autonomy, and feedback were positively and significantly correlated with productivity (Griffin, 1982). In addition, all four attributes (including task identity) were correlated with job satisfaction and a significant moderating effect for growth need strength was found between task scope and job satisfaction. (In a similar vein, O'Brien, while investigating the relationship between perceived skill-utilization to the prediction of job

satisfaction, also discovered that variety was significantly and positively associated with job satisfaction (O'Brien, 1982).) Growth need strength was not found to be a moderating effect between task scope and productivity. The author concluded that employee task perceptions were related to long-term productivity.

Katz (1978) also investigated the influence of job longevity on the relationships between job satisfaction and the five task dimensions of the job characteristics model. Three thousand eighty-five public employees were surveyed using the Job Diagnostic Survey. Katz verified that the task dimensions of the model were significantly related to job satisfaction. He further discovered that there were significant differences in the task dimension--job satisfaction relations among various job stages. Employees in the beginning months (0-3 months) were described as being in the learning stage. During this stage, satisfaction scores were only significantly related to task significance and feedback. The satisfaction scores were unrelated to skill variety and task identity and negatively related to autonomy. During the second stage, the responsive stage (3 months to 10 years), the relationships between satisfaction and all the task characteristics were significantly positive. The most active relationships occurred during the one to three year point. Satisfaction was found to be strongly related to both performance and turnover. During

the last stage, the unresponsive stage (greater than 10 years), satisfaction scores were unrelated to the task dimensions and "somewhat negatively associated with performance" (Katz, 1978). Katz cautioned that job satisfaction does not necessarily decline with job longevity, but that the determinants of satisfaction change with job longevity.

Kiggundu (1981) supported the basic concept of the job characteristics model but argued that the construct, autonomy, alone does not represent the psychological state of experienced responsibility of the work. Instead, task interdependence mediates the individual's relationship between the task dimensions and the psychological states. Citing results from his review of job design literature, Kiggundu claimed that autonomy leads to experienced responsibility for one's own work while task interdependence leads to "experienced responsibility for work outcomes of others for whom one initiates work" (Kiggundu, 1981). He further states that there are two types of task interdependence: initiated (directly effects jobs of others) and received (effected by other jobs); and the type of interdependence an employee experiences effects the psychological states as well as the individual's motivation. Specifically, initiated task interdependence is positively related to motivation, satisfaction, and performance, while received task interdependence has a negative effect. A complete and

accurate measurement of experienced responsibility requires that researchers consider the contribution of both autonomy and task interdependence. While admitting that his theory is speculative, Kiggundu concluded that incorporating task interdependence provides explanations for some of the contradictory results of earlier research.

Concluding Remarks

Generally, research has supported the validity of Hackman and Oldham's Job Characteristics Model and its measurement instrument, the Job Diagnostic Survey. Most of the researchers agree that the task dimensions of the Job Characteristics Model do indeed predict the three psychological states that ultimately effect job satisfaction, motivation, and performance. The outcome variables (satisfaction, motivation, and performance) themselves have been found to impact each other (Mitchell, 1982). The Job Diagnostic Survey has withstood close scrutiny and its psychometric properties of .70 are now well accepted. The Motivation Potential Score of the model has also been accepted and the formulation of the construct has survived extensive testing. Thus, the Job Characteristics Model and the JDS are the most popular method for studying task characteristics and will be used to answer the research questions presented in Chapter 1.

Chapter 3

METHOD

The research objective of this thesis was "to determine if there are significant differences in job characteristics between CONUS and overseas job positions for senior NCOs in Civil Engineering Squadrons." A thesis conducted in 1982 (LSSR 58-82 by Peters and Duke) provided job characteristics from senior civil engineering NCOs stationed within the CONUS. This thesis, therefore, collected data from senior NCOs (Master Sergeant through Chief Master Sergeant) stationed overseas within PACAF and USAFE base civil engineering squadrons.

Population Surveyed

A personnel listing obtained from the Air Force Military Personnel Center (AFMPC) revealed a population size of 856 civil engineering senior NCOs assigned to overseas locations. Eliminating the population for those assigned to Alaskan Air Command, TAC, MAC, Space Command, Communications and Red Horse Units, leaves an available population of approximately 570. To insure validity and simplify comparisons with the 1982 CONUS NCO data, it was decided to attempt to match the return data of 400. Since the average return rate for AFIT/LS surveys is approximately

60-65 percent, 560 questionnaires were mailed to qualified respondents. A return rate of 65 percent would provide 364 data points (sufficiently close to the 1982 sample population of 400) as well as a sampling of 64 percent of the total available population.

Command Approval

Mr Harry S. Rietman, Associate Director of Engineering and Services, the Pentagon, was contacted in February 1983 and provided verbal approval to conduct the survey. The survey instrument was approved by AFMPC and assigned the Survey Control Number 83-26. A copy of the survey instrument and approval letter is provided in Appendix A.

Data Collection

Procedure

Questionnaires (Appendix A) were distributed to subjects by name through their parent organization. Completed questionnaires were individually returned using the provided envelopes (unmarked to ensure respondents remain anonymous).

Measures

The measurement instrument chosen to accomplish the research objective was the short-form Job Diagnostic Survey (JDS). The JDS provided measurements for many variables believed to influence employee perspectives about their jobs

and has good "reliability estimates typically above .70" (Pierce and Dunham, 1978). The variables researched in this thesis were the core job dimensions (skill variety, task identity, task significance, autonomy, and feedback from the job itself), general satisfaction and, through arithmetic manipulation, the motivating potential score. The scoring key for the JDS used in this thesis must be the same as that used in the Peters and Duke (1982) thesis in order to minimize introducing errors and allow accurate comparisons between the two theses' results. The scoring key is provided as follows:

A. Skill Variety (SV): The degree to which a job requires a variety of different activities in carrying out the work, involving the use of a number of different skills and talents of the employee. (Hackman, 1975)

: average the following questions from the JDS:

Section one, question no. 4
Section two, question no. 1
Section two, question no. 5 (reversed scoring, i.e., subtract response value from eight)

B. Task Significance (TS): The degree to which the job has a substantial impact on the lives or work of other people--whether in the immediate organization or in the external environment. (Hackman, 1975)

: average the following:

Section one, question no. 5

Section two, question no. 8
Section two, question no. 14
(reversed scoring)

C. Task Identity (TI): The degree to which the job requires completion of a "whole" and identifiable piece of work--that is, doing a job from beginning to end with a visible outcome. (Hackman, 1975)

: average the following:

Section one, question no. 3
Section two, question no. 11
Section two, question no. 3
(reversed scoring)

D. Autonomy (A): The degree to which the job provides substantial freedom, independence, and discretion to the employee in scheduling the work and in determining the procedures to be used in carrying it out. (Hackman, 1975)

: average the following:

Section one, question no. 2
Section two, question no. 13
Section two, question no. 9
(reversed scoring)

E. Feedback (FB): The degree to which carrying out the work activities required by the job results in the employee obtaining direct and clear information about the effectiveness of his or her performance. (Hackman, 1975)

: average the following:

Section one, question no. 7
Section two, question no. 4
Section two, question no. 12
(reversed scoring)

F. General Satisfaction (S): An overall measure of the degree to which the employee is satisfied and happy with the job.

: average the following:

Section three, question no. 2
Section three, question no. 6
Section three, question no. 4
(reversed scoring)

G. Motivating Potential Score (MPS): An "index which measures the extent to which a job activates internal work motivation and personal outcomes of the job incumbents." (Evans, et al, 1979)

: MPS = 1/3[SV+TI+TS]xAxFB

Additional demographic questions preceded the actual JDS so that the data could be properly transformed to perform statistical analysis and to provide information not contained in the JDS. The demographic questions determined the job position, rank and duty station (command and geographical location) of the respondents. Additional information of interest was collected by demographic questions number 9, 16, and 19.

Demographic question number 9 asked the respondent to state which command he feels best utilized the potential of senior NCOs. The responses to this question may immediately clue researchers to the discovery of what senior NCOs consider to be the best designed job position.

Question number 16 asked the respondent if senior NCOs are given jobs with less responsibility than they should have. The responses to this question may be a direct indication of the growth need strength the individual possesses

or may even highlight an area of deficiency for senior NCO job positions.

Question number 19 asked the respondent what he/she perceived the future to be for senior NCO jobs in Base Civil Engineering. With the continuing technological changes this question was of interest to see how optomistic they feel about their jobs.

Statistical Analysis

This section describes the statistical analysis used in this research. The next section will describe how each specific question was analyzed. The data collected in this research project was analyzed by using the Statistical Package for Social Sciences (SPSS) computer package. The SPSS package provides the analyst with a wide range of test procedures and allows in-depth research of virtually any data base. The computer package was utilized to calculate the job characteristic and outcome group means (MPS and Satisfaction) scores, and perform statistical analysis using the BREAKDOWN and ONEWAY procedures. The SPSS program developed for this research thesis is provided in Appendix B.

BREAKDOWN

The BREAKDOWN function of the SPSS package "prints sums, means, standard deviations, and variances of a variable within subgroups defined by another variable" (Norusis, 1982).

The procedure will also print tables (cross tabulations) providing easy visualization of the population distribution among the variables of job position, command (PACAF and USAFE), and rank.

ONEWAY

The ONEWAY function of the SPSS package performs statistical analysis of variance. This procedure was used to determine if any significant differences existed between the variables derived from the JDS (SV, TI, TS, A, FB, MPS, S) and job positions. More specifically, the ONEWAY procedure was used as a preliminary test and to compute means for hypotheses number 1, 2 and 3.

T-Test

A pooled T-Test was used to analyze hypotheses 1, 2 and 4, requiring a two sample statistical test. The pooled T-Test uses a weighted average of the sample variances in computing the standard error of the mean. This was required because of the underlying assumption that the sample variances represent two estimates of the same population variance. The T-Test also assumes that the parent population is normally distributed and a random sample was used in the test. Use of the T-Test in this thesis does not violate any of the assumptions of the test procedure. The random sample assumption was provided by AFMPC's (Air Force Military Personnel Center) assignment selection process and

further reinforced by the sampling method employed in this thesis. Violation of the normally distributed population assumption was eliminated by large population sizes. It has been verified that the larger the population and sample (sample sizes greater than 30), the closer the distribution approaches normality.

The statistical tests were conducted by hand using the published results of the Peters and Duke (1982) research. The statistical test used is as follows:

$$t_{n_1+n_2-2} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1-1)s_1^2 + (n_2-1)s_2^2}{n_1 + n_2 - 2}\left(\frac{n_1+n_2}{n_1 n_2}\right)}}$$

where

$\bar{X}$ = sample mean values

n = sample size

s^2 = sample variance values

A confidence level of 95 percent was used as the statistical parameter for the T-Tests. A significant difference would exist only if the probability level calculated by the statistical procedure was below the level of significance of .05, associated with a 95 percent confidence level. This translates into assuring that there was only a five percent chance of making a type 1 error (a type 1 error is one in which the analyst rejects the null hypothesis when,

in fact, it is true). A 95 percent confidence level is used most often in social/behavior science research (Harnett, 1975).

Research Analysis

In order to accomplish the research objective, "to determine if there are significant differences in job characteristics between CONUS and overseas job positions for senior NCOs in Civil Engineering Squadrons," four research questions were derived in Chapter 1. To facilitate statistical analysis, each research question was formulated into null and alternate hypotheses. Two additional survey questions were developed to determine what senior NCOs perceive the future level of senior NCO job positions will be in Base Civil Engineering Squadrons and how satisfied they were with the responsibility levels associated with their jobs. Each research question, formulated hypothesis and appropriate method of analysis are described below.

Research Question No. 1

Is there a significant difference between the MPS of CONUS senior NCO job positions and overseas senior NCO job positions?

Hypothesis No. 1. It was predicted that the MPS of senior overseas NCO job positions are greater than those for CONUS job positions. The null hypothesis to be tested was:

H_0: There are no significant differences in the MPS values for job positions between senior NCOs stationed overseas and those assigned within CONUS.

Statistical notations of the null and alternate hypotheses

a) H_0: $\mu_{PBOS} = \mu_{PBC}$
H_A: $\mu_{PBOS} > \mu_{PBC}$
μ_{PB} = mean MPS for Prime Beef NCOs

b) H_0: $\mu_{OMOS} = \mu_{OMC}$
H_A: $\mu_{OMOS} > \mu_{OMC}$
μ_{AS} = mean MPS for Operations and Maintenance Superintendents

c) H_0: $\mu_{ASOS} = \mu_{ASC}$
H_A: $\mu_{ASOS} > \mu_{ASC}$
μ_{AS} = mean MPS for Assistant Supervisors

d) H_0: $\mu_{FPOS} = \mu_{FPC}$
H_A: $\mu_{FPOS} > \mu_{FPC}$
μ_{FP} = mean MPS for Fire Protection NCOs

e) H_0: $\mu_{USOS} = \mu_{USC}$
H_A: $\mu_{USOS} > \mu_{USC}$
μ_{US} = mean MPS for Unit Supervisors

Method of Analysis. The computer program computed the motivation potential score for each overseas NCO job position based on the previously described JDS scoring guide and the BREAKDOWN function provided the mean MPS for each job position. The ONEWAY functions of the SPSS package also computed the mean MPS to each overseas senior NCO job position. The mean MPS for overseas senior NCO job positions were then compared with the mean MPS for CONUS job positions using a pooled T-Test. The statistical test was formulated as follows:

$$t_{n_1+n_2-2} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1-1)s_1^2 + (n_2-1)s_2^2}{n_1 + n_2 - 2}\left(\frac{n_1+n_2}{n_1 n_2}\right)}}$$

where

$\bar{X}$ = sample mean values

n = sample size

s^2 = sample variance values

Each hypothesis (a through e) was tested using a pooled T-Test (five tests) via long hand computations because the raw data used for comparison purposes was not available (i.e., only finished result from the Peters and Duke (1982) thesis was available). Using a confidence level of 95 percent, the hypothesis tested can be rejected only if the computed t_c was greater than 1.645. If the computed t_c was greater than 1.645, there was a statistical difference between the MPS of CONUS and overseas senior NCOs. If the calculated value was less than 1.645, it can only be concluded that the statistical tests failed to reject the null hypothesis. This does not mean that there absolutely was no significant difference between overseas and CONUS senior NCO job positions, or that the MPS are equal. It only means that the alternative hypothesis of overseas MPS being greater than CONUS MPS cannot be statistically supported.

Research Question No. 2

Is there a significant difference between the satisfaction values of CONUS senior NCO job positions and overseas senior NCO job positions?

Hypothesis No. 2. It was predicted that the satisfaction scores for overseas senior NCO job positions would be greater than those for CONUS NCO job positions. The null

hypothesis to be tested was:

H_0: There are no significant differences in the satisfaction scores for job positions between senior NCOs stationed overseas and those assigned within CONUS.

Statistical notations of the null and alternate hypotheses were as follows:

a) H_0: $\mu_{SPBOS} = \mu_{SPBC}$ μ_{SPB} = mean satisfaction value for Prime Beef NCOs
   H_A: $\mu_{SPBOS} > \mu_{SPBC}$

b) H_0: $\mu_{SOMOS} = \mu_{SOMC}$ μ_{SOM} = mean satisfaction value for Operations and Maintenance Superintendents
   H_A: $\mu_{SOMOS} > \mu_{SOMC}$

c) H_0: $\mu_{SASOS} = \mu_{SASC}$ μ_{SAS} = mean satisfaction value for Assistant Supervisors
   H_A: $\mu_{SASOS} > \mu_{SASC}$

d) H_0: $\mu_{SFPOS} = \mu_{SFPC}$ μ_{SFP} = mean satisfaction value for Fire Protection NCOs
   H_A: $\mu_{SFPOS} > \mu_{SFPC}$

e) H_0: $\mu_{SUSOS} = \mu_{SUSC}$ μ_{SUS} = mean satisfaction value for Unit Supervisors
   H_A: $\mu_{SUSOS} > \mu_{SUSC}$

Method of Analysis. The methods used to conduct the analysis of the second hypothesis were the same as those used for hypothesis No. 1. Once again, five separate pooled T-Tests were performed.

Research Question No. 3

If there is a difference between the MPS or satisfaction values, is there a significant difference between the job characteristics (SV, TI, TS, A, FB) and if so, what characteristics are different?

Hypothesis No. 3. Since it was predicted that the MPS of overseas senior NCO job positions greater than CONUS, there must be a difference between the values for the job characteristics, though it was unknown which job characteristics were different. Therefore, the hypothesis to be tested was:

H_0: The average values for the core job dimensions for overseas NCO job positions are the same as those for CONUS job positions.

Statistical notations were as follows:

a) H_0: $\mu_{SVOS} = \mu_{SVC}$ μ_{SV} = mean value for Skill Variety
H_A: $\mu_{SVOS} > \mu_{SVC}$

b) H_0: $\mu_{TIOS} = \mu_{TIC}$ μ_{TI} = mean value for Task Identity
H_A: $\mu_{TIOS} > \mu_{TIC}$

c) H_0: $\mu_{TSOS} = \mu_{TSC}$ μ_{TS} = mean value for Task Significance
H_A: $\mu_{TSOS} > \mu_{TSC}$

d) H_0: $\mu_{AOS} = \mu_{AC}$ μ_{A} = mean value for Autonomy
H_A: $\mu_{AOS} > \mu_{AC}$

e) H_0: $\mu_{FBOS} = \mu_{FBC}$ μ_{FB} = mean value for Feedback
H_A: $\mu_{FBOS} > \mu_{FBC}$

Method of Analysis. The computer program calculated the mean values for the five core job characteristics for each of the five job positions via the ONEWAY functional command for the SPSS package. The pooled T-Test was once again used to test the significant differences (25 tests were required), as described for Hypothesis No. 1.

Research Question No. 4

Do overseas based senior NCOs believe that a certain major command utilizes their potential best?

Hypothesis No. 4. It was predicted that senior NCOs believed that overseas commands (PACAF and USAFE) utilize the potential of senior NCOs better than other major commands. The null hypothesis to be tested was:

H_0: There is no difference among the major commands in the utilization of the potential of senior NCOs.

Statistical notation for the null and alternate hypotheses were as follows:

H_0: $\mu_{UPOS} = \mu_{UPC}$

H_A: $\mu_{UPOS} > \mu_{UPC}$

μ_{UP} = mean frequency for the utilization of potential response

Method of Analysis. The method used to answer this research question was a simple arithmetic summation and percentage computation provided by the FREQUENCIES function of the SPSS package.

Chapter 4

RESULTS

This chapter examines the results of the analysis discussed in Chapter 3. First, a description of the respondents is provided and then each research question will be discussed.

Sample Population

This research effort received good support from Civil Engineering senior NCOs. Of the 560 questionnaires mailed, 345 were completed and returned providing a response rate of 61 percent. This corresponds favorably to the average response rate of 60-65 percent for AFIT/LS surveys.

The rank distribution of the sample population is provided in Figure 2. Two hundred and forty Master Sergeants (70 percent of the sample population), 74 Senior Master Sergeants (21 percent), and 21 Chief Master Sergeants (six percent) responded to the survey. Ten respondents, representing three percent of the sample, failed to answer the question requesting their rank.

A problem was encountered in classifying the respondents by job position. Demographic questions number 12 and 13 of the questionnaire (Appendix A) were used for this purpose. However, 82 respondents (25 percent of the sample

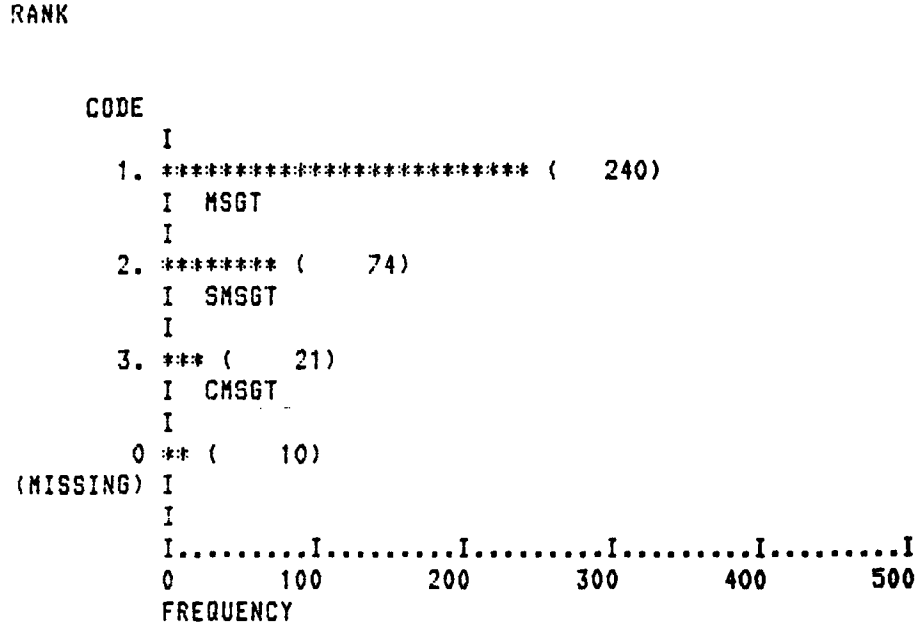


Figure 2. Rank Distribution

population that returned the survey) could not be classified by the five job positions used in this research. This reduced the size of the sample used to answer research questions number 1, 2, and 3 to 46 percent of the total population available. The job position distribution of the sample is provided in Figure 3. Another problem discovered was that only five PRIME BEEF NCOs responded to the survey providing an inadequate sample size for valid or reliable tests. The discussion of the results, therefore, concentrated on the remaining four job positions. Operations and Maintenance superintendents represented 18 percent of the sample with 62 respondents. Assistant supervisors constituted 13 percent of the sample with 43 respondents and Fire Protection supervisors represented 12 percent with 42 respondents. Unit supervisors were the largest group with 108 respondents corresponding to 31 percent of the total sample population.

Research Question No. 1

Is there a significant difference between the Motivation Potential Scores (MPS) of CONUS senior NCO job positions and overseas senior NCO job positions?

It was predicted that the MPS of senior NCOs stationed overseas would be significantly greater than those for senior NCOs stationed within CONUS. The means and standard deviations for each job position are shown in Table 1. A T-Test was used to determine if a statistically

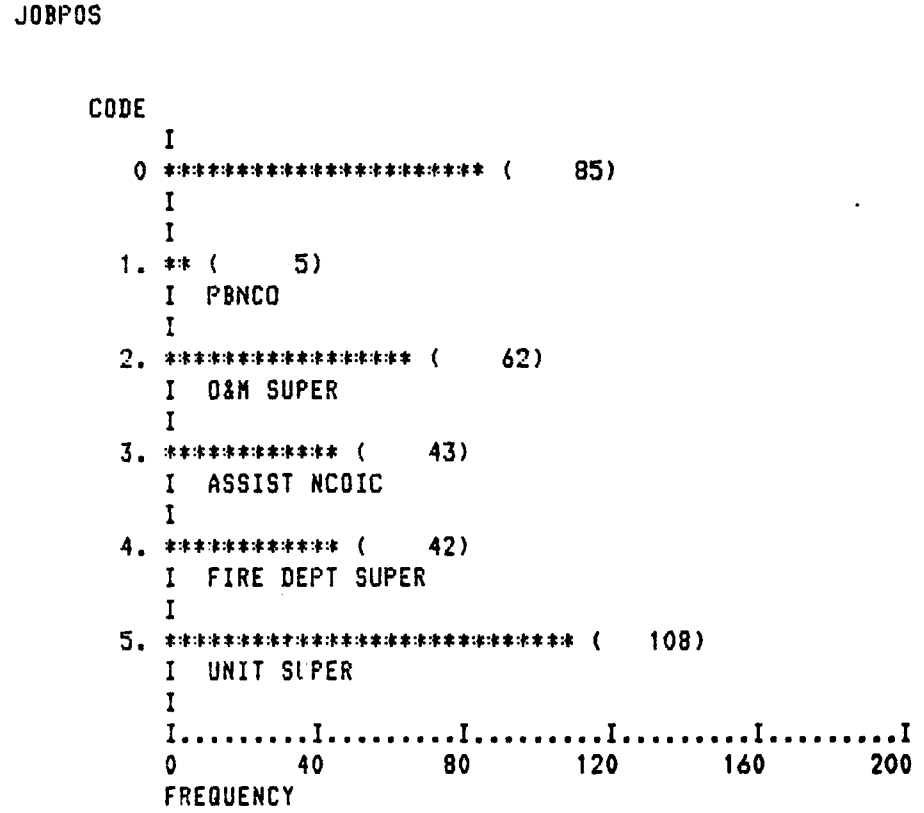


Figure 3. Job Position Distribution

TABLE 1

Means for MPS Scores

JOB POSITION	CONUS N	CONUS M	CONUS SD	OVERSEAS N	OVERSEAS M	OVERSEAS SD	t-value
Operation and Maintenance Supervisor	73	150.77	77.38	62	154.60	72.12	.296
Assistant Supervisor	65	128.48	68.71	43	153.63	68.77	1.786*
Fire Department Supervisor	40	177.51	67.36	42	190.43	61.60	.907
Unit Supervisor	171	145.72	76.60	108	161.04	80.70	1.594**

* Significant difference for $p<.05$

** Significant difference for $p<.10$

reliable difference existed between the MPS for each CONUS and overseas job position. An example of a T-Test (for assistant supervisors) is presented below:

$$t_c = \frac{152.63 - 128.48}{\frac{42(68.77)^2 + 64(68.71)^2}{106} \quad \frac{108}{(65)(43)}} = 1.786 > 1.645$$

Since the calculated t-value is greater than 1.645, the test rejects the null hypothesis and confirms the alternate. Thus, we are able to conclude that the Motivation Potential Scores for assistant supervisors stationed overseas were significantly greater than those stationed within the CONUS. Assistant supervisors were the only job position which produced a significant difference between CONUS and overseas senior NCOs at a 95 percent confidence level. The t-values were then compared using a 90 percent level of significance. Decreasing the confidence level revealed that the MPS values for unit supervisors were statistically different. Thus, by increasing the acceptable probability of error to 10 percent, we can conclude that the MPS values for overseas unit supervisor and assistant supervisor job positions were significantly higher than those for senior NCOs occupying the same job positions within CONUS. Although the MPS scores for the Operations and Maintenance (O&M) superintendent and Fire Protection supervisor job positions were not significantly different, the scores for overseas senior NCOs were higher than those for senior NCOs stationed within CONUS.

Research Question No. 2

Is there a significant difference between the satisfaction values of CONUS senior NCO job positions and overseas senior NCO job positions?

It was predicted that the satisfaction scores for overseas senior NCO job positions would be greater than those for CONUS senior NCO job positions. The results of the data analysis, shown in Table 2, do not support the prediction using a confidence level of 95 percent. However, increasing the acceptable probability of error to 10 percent reveals that overseas assistant supervisors derive more satisfaction from their jobs than CONUS assistant supervisors. Therefore, we must conclude that, except for assistant supervisors, the satisfaction perceived by overseas senior NCOs for their job positions was not significantly greater than that perceived by CONUS based senior NCOs occupying the same job positions.

Research Question No. 3

If there is a significant MPS or satisfaction difference between groups, is there a significant difference between the job characteristics (i.e., core job dimensions--skill variety, task identity, task significance, autonomy, and feedback) and, if so, what characteristics are different?

The results from the previous research questions lead us to suspect that there exists significant differences among the job characteristics between overseas and CONUS senior NCOs for assistant supervisor (at the 95 percent confidence level) and unit supervisor (90 percent confidence

TABLE 2

Means for Satisfaction Values

JOB POSITION	CONUS N	CONUS M	CONUS SD	OVERSEAS N	OVERSEAS M	OVERSEAS SD	t-value
Operation and Maintenance Supervisor	73	5.40	1.17	62	5.42	1.28	.090
Assistant Supervisor	65	4.63	1.6	43	5.11	1.41	1.597**
Fire Department Supervisor	40	5.71	1.04	42	5.68	.99	-.156
Unit Supervisor	171	5.11	1.37	108	5.15	1.53	.199

** Significant difference for p<.10

level) job positions. The results of the statistical T-Tests (Tables 3 - 7) support this inference. For both job positions, a significant difference existed in the degree of autonomy senior NCOs perceive to be associated with their jobs (Table 7). The difference was significant at the 95 percent confidence level for assistant supervisors and at the 90 percent confidence level for unit supervisors. No other significant difference occurred in the task characteristics for these job positions. We can, therefore, conclude that the job characteristic that caused a significant difference between overseas and CONUS senior NCO MPS values (and satisfaction for assistant supervisors) for assistant and unit supervisors was autonomy.

Though the data analysis did not reveal significant differences between the MPS and satisfaction values for the other two job positions, O&M superintendents and Fire Protection supervisors, statistical T-Tests were still performed. This was done because, even if the MPS scores were not different between CONUS and overseas senior NCOs, differences may still exist between task characteristics measures and the formulation of the MPS could conceal them. These tests revealed that no significant differences at the two confidence levels existed among the core job dimensions for O&M superintendents and Fire Protection supervisors.

TABLE 3

Means for Skill Variety

JOB POSITION	CONUS N	CONUS M	CONUS SD	OVERSEAS N	OVERSEAS M	OVERSEAS SD	t-value
Operation and Maintenance Supervisor	73	5.36	1.27	62	5.34	1.28	-.027
Assistant Supervisor	65	4.95	1.38	43	4.92	1.47	-.101
Fire Department Supervisor	40	5.75	.92	42	5.75	.93	0
Unit Supervisor	171	5.16	1.33	108	5.26	1.25	.639

TABLE 4

Means for Task Identity

JOB POSITION	CONUS N	CONUS M	CONUS SD	OVERSEAS N	OVERSEAS M	OVERSEAS SD	t-value
Operation and Maintenance Supervisor	73	4.53	1.42	62	4.62	1.24	.088
Assistant Supervisor	65	4.76	1.47	43	5.03	1.30	1.01
Fire Department Supervisor	40	4.92	.96	42	4.94	1.26	.097
Unit Supervisor	171	4.70	1.41	108	4.69	1.48	-.045

TABLE 5

Means for Task Significance

JOB POSITION	CONUS N	CONUS M	CONUS SD	OVERSEAS N	OVERSEAS M	OVERSEAS SD	t-value
Operation and Maintenance Supervisor	73	5.96	1.03	62	6.10	1.12	.764
Assistant Supervisor	65	5.81	1.17	43	6.09	.99	1.26
Fire Department Supervisor	40	6.44	.764	42	6.53	.571	.62
Unit Supervisor	171	6.00	1.04	108	6.03	1.10	.284

TABLE 6

Means for Feedback

JOB POSITION	CONUS N	CONUS M	CONUS SD	OVERSEAS N	OVERSEAS M	OVERSEAS SD	t-value
Operation and Maintenance Supervisor	73	5.11	1.11	62	5.09	1.24	-.094
Assistant Supervisor	65	5.02	1.20	43	5.25	1.11	.999
Fire Department Supervisor	40	5.24	1.02	42	5.46	.86	1.06
Unit Supervisor	171	4.99	1.22	108	5.14	1.28	.973

TABLE 7

Means for Autonomy

JOB POSITION	CONUS N	CONUS M	CONUS SD	OVERSEAS N	OVERSEAS M	OVERSEAS SD	t-value
Operation and Maintenance Supervisor	73	5.23	1.36	62	5.33	1.29	.428
Assistant Supervisor	65	4.63	1.37	43	5.19	1.19	2.207*
Fire Department Supervisor	40	5.70	.99	42	5.94	.91	1.129
Unit Supervisor	171	5.15	1.37	108	5.42	1.40	1.59**

* Significant difference for $p<.05$

** Significant difference for $p<.10$

Research Question No. 4

Do overseas based senior NCOs believe that a certain major command utilizes the potential of senior NCOs best?

It was predicted that overseas based senior NCOs believe that overseas commands (PACAF and USAFE) utilize the potential of senior NCOs better than other major commands. As shown in Table 8, 153 of the senior NCOs (48 percent) felt that overseas commands do indeed utilize the potential of senior NCOs best with USAFE receiving 27 percent (87) and PACAF, 21 percent (66) of the responses. SAC received the third largest number of responses (61) representing 19 percent of the sample. TAC was the only other major command with a response rate greater than 10 percent (36 for 11 percent of the sample population). The results show a clear division between the top three commands and the remaining commands with TAC in the middle of the break. The prediction was weakly supported by the results. However, the fact that individually, overseas commands received the greatest responses, should not be overlooked.

Survey Questions

Survey question number 16 asked the respondent if senior NCOs are given jobs with less responsibility than they should have. The responses to this question are shown in Table 9. A response of "5" means that the respondents strongly agree that senior NCOs are not given jobs with sufficient responsibility. Conversely, a response of "1"

TABLE 8

Senior NCO Utilization Distribution

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
AFLC	1.	3	.9	.9	.9
AFSC	2.	12	3.5	3.8	4.7
ATC	3.	20	5.8	6.3	11.0
MAC	4.	17	4.9	5.3	16.3
SAC	5.	61	17.7	19.1	35.4
TAC	6.	36	10.4	11.3	46.7
PACAF	7.	66	19.1	20.7	67.4
USAFE	8.	87	25.2	27.3	94.7
OTHER	9.	17	4.9	5.3	100.0
	0	26	7.5	MISSING	
	TOTAL	345	100.0	100.0	

TABLE 9

Job Responsibility

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	1.	19	5.5	5.5	5.5
	2.	97	28.1	28.2	33.7
	3.	31	9.0	9.0	42.7
	4.	141	40.9	41.0	83.7
	5.	56	16.2	16.3	100.0
	0	1	.3	MISSING	
	TOTAL	345	100.0	100.0	

means that the respondents believe that they are given jobs that contain a sufficient amount of responsibility. The mean response was "4" which corresponds to the respondents "agreeing" that they are given jobs with less responsibility than they should have. Specifically, 57 percent of the respondents (197 out of 344) felt that senior NCOs are not given jobs with a sufficient level of responsibility. Nine percent (31) were undecided and 34 percent (116) believed that senior NCOs were given jobs with sufficient responsibility. From a simple percentage analysis, a sufficient number of senior NCOs were unsatisfied with the level of responsibility their jobs provide to warrant further study in this area.

Survey question number 19 asked the respondent what he/she perceived the future to be for senior NCO jobs in Base Civil Engineering. Thirty-one percent (107 out of 341) responded that the jobs will remain about the same while 26 percent (89) felt that senior NCO jobs would become more challenging and rewarding in the future. However, 42 percent (144) were not optomistic and responded that authority and job satisfaction will decline in the future. The results are shown in Table 10. Though the mode response of "4" and a mean value of 4.25 means that the majority of senior NCOs believe that jobs within Base Civil Engineering squadrons will remain the same or get better, a sufficient number (42 percent) were pessimistic enough to justify

TABLE 10

Future of NCO Jobs

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	1.	14	4.1	4.1	4.1
	2.	31	9.0	9.1	13.2
	3.	45	13.0	13.2	26.4
	4.	107	31.0	31.4	57.8
	5.	61	17.7	17.9	75.7
	6.	43	12.5	12.6	88.3
	7.	40	11.6	11.7	100.0
	0	4	1.2	MISSING	
	TOTAL	345	100.0	100.0	.

further study in this area. It must be remembered that the respondents to this research are senior level NCOs, Master Sergeants through Chief Master Sergeants, and their views can be expected to be reflected by the younger, lower ranking enlisted members of the Air Force.

Chapter 5

CONCLUSIONS AND RECOMMENDATIONS

The objective of this research was to determine if there were significant differences in job characteristics between CONUS and overseas job positions for senior NCOs in Base Civil Engineering squadrons. Numerous comments made to this author and others have led us to believe that senior NCOs do perceive a difference between CONUS and overseas job positions. Peters and Duke (1982) also received a number of written comments in their research from senior NCOs stating that they were dissatisfied with the qualities of CONUS jobs when compared to those overseas.

> For the most part, the comments related that a reduction in responsibility for job level occurred in some cases upon returning from overseas. After performing as foremen or supervisors at overseas locations, a few of the NCOs complained that they were required to accept technician or assistant supervisor jobs in the CONUS (Peters and Duke, 1982, p. 82).

Conclusions

To determine if there were differences between CONUS and overseas senior NCO job positions, three research questions were proposed based on Hackman and Oldham's Job Characteristics Model and its measurement instrument, the Job Diagnostic Survey. Research Question No. 1 and its associated hypothesis were developed to determine if

significant differences existed in the motivation potential scores of overseas and CONUS senior NCOs. The results revealed that a significant difference does exist in the Unit supervisor and Assistant supervisor job positions. Overseas O&M superintendents and Fire Protection NCOs did not appear to perceive that their jobs contained greater motivation potential than their peers within CONUS. Research Question No. 2 revealed that only Assistant supervisors believed that their overseas jobs provided more satisfaction than the same job within CONUS commands. Research Question No. 3 and its hypothesis were formulated to determine if significant differences existed among the core job dimensions of overseas and CONUS job positions. According to Hackman and Oldham's Job Characteristics Model (1975), it is the five core job dimensions that determine the personal outcomes of satisfaction and motivation. The only core job dimension that was significantly different was autonomy for Unit supervisors and Assistant supervisors.

We can, therefore, positively conclude that overseas senior NCO jobs possess attributes that provide higher motivation than those within CONUS for Unit and Assistant supervisor job positions. Specifically, overseas Unit and Assistant supervisor job positions contain higher amounts of autonomy that engender higher motivation potential than similar CONUS job positions.

These findings match this author's personal experiences. O&M superintendent and Fire Protection supervisor job requirements generally do not differ appreciably between overseas and CONUS commands. Unit and Assistant supervisor job requirements, however, can differ widely. Support requirements for units located in possible hostile zones vary drastically and require expedient action. Flexibility is critical and many units accomplish this by delegating authority to the immediate unit involved. The delegation of authority, of course, includes the autonomy necessary to perform the action required.

The prediction that overseas senior NCOs believe that overseas commands utilize the potential of senior NCOs better than other major commands was weakly supported. The resulting percentages were such that definite conclusions could not be proclaimed. Though overseas commands accounted for only 48 percent of the total responses, the two single commands receiving the largest percentages were USAFE and PACAF (27 and 21 percent, respectively). After SAC (19 percent), the response percentage decreased rapidly showing a clear split with TAC (11 percent) in the middle of the break.

Recommendations

Even though overseas commands received only 48 percent of the total responses, the disparity of the response percentages is too great to simply ignore. Further research

should be conducted to determine if the perception that overseas commands utilize the potential of senior NCOs best is universal throughout the Air Force and, if so, what causes the perception. It may be that the higher levels of autonomy and MPS for Unit and Assistant Unit supervisors are the reasons for the high percentages overseas commands received. However, with the results of only one study available, this statement cannot be called conclusive.

A further limitation that compels caution in proclaiming conclusions is the fact that the study considered only the job characteristics contained in the JDS. Other factors such as geographical location, familiarity with command operations and procedures or other reasons not associated with job content may have influenced the responses. In addition, the bias effect caused by the subjects serving overseas at the time they completed the questionnaire must be considered.

A follow-on study to obtain the perceptions of senior NCOs that have returned from overseas assignments may clear up the confusion. Studying their beliefs after they have adjusted to CONUS job positions will reveal if the perception that overseas commands utilize their potential best is truly valid.

Sufficiently poor responses were discovered for demographic questions 16 and 19 to cause concern that top management must be made aware of. Survey question number 19

revealed that a large portion of the respondents were pessimistic about the future level of senior NCO jobs in Base Civil Engineering squadrons. They responded that authority and job satisfaction will decline. The question that must be posed is why do they perceive a decline will occur? Is it because their next assignment will normally be back in the CONUS and they will be occupying assistant supervisory positions instead of direct supervisory positions? If so, this question corresponds to the differences in command utilization previously discussed. The survey used for this research did not contain questions to determine the reason for the pessimism and further research is needed to discover the causes.

Survey question number 16 revealed that senior NCOs do not believe that their job positions contain a sufficient level of responsibility. This discovery is not unique; however, to this author's knowledge, the reasons for their belief or methods to reverse the perception that can be implemented have not been discovered or adequately reported. This area has been the subject of various studies but until a solution is discovered, research should be continued.

Additional research, as described previously, is warranted and may reveal solutions that will enable the Air Force to retain quality senior NCOs. Ensuring that their jobs are motivating and satisfying will provide the foundation necessary for them to motivate and set the proper example for junior enlisted personnel.

APPENDICES

APPENDIX A

JOB CHARACTERISTICS SURVEY

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE MANPOWER AND PERSONNEL CENTER
RANDOLPH AIR FORCE BASE, TX 78150

7 APR 1983

MPCYP

Request for Survey Approval (Capt Tuttle)

AFIT/ED (Col Gleason)

1. The Job Diagnostic Survey submitted by Capt Tuttle has been reviewed by our office and is approved for administration. The survey control number USAF SCN 83-26 (expires 10 Oct 83) has been assigned and should be displayed on the cover of each copy of the survey booklet.

2. As per our telecon with Capt Tuttle (5 Apr 83), the final instrument should reflect the following changes:

a. Item #5 should include the response option "AAC" (Alaskan Air Command).

b. Item #6 should include the response option, "NA, not serving in PACAF". Additionally, the reference to the Alaskan Air Command should be deleted in response option "f".

c. Item #7 should include the response option, "NA, not serving in USAFE".

3. Should you have any questions regarding this matter, please contact Mr. Hamilton at HQ AFMPC/MPCYPS, Randolph AFB, TX, 78150 or AUTOVON 487-2449/6122.

FOR THE COMMANDER

/S/

BERT K. ITOGA, Lt Col, USAF
Chief, Research and Measurement Division

Cy to: AFIT/LSH ✓
AFIT/LSM-GEM

DEPARTMENT OF THE AIR FORCE
AIR FORCE INSTITUTE OF TECHNOLOGY (ATC)
WRIGHT-PATTERSON AIR FORCE BASE, OH 45433

REPLY TO ATTN OF LS (Capt Tuttle, AV 785-6569)

22 APR 1983

SUBJECT Job Diagnostic Survey Package

TO

1. Will you please take the time to complete the attached questionnaire and return it to us in the enclosed envelope by 15 May 1983.

2. The survey measures your perceptions and attitudes toward your job and job environment. The data we gather will become part of an AFIT research project and may influence job design if we find any significant problems. Of course, the data will be held in confidence and on a nonattribute basis.

3. Your participation in the project is completely voluntary but we would sure appreciate your help.

Larry L. Smith

LARRY L. SMITH, Colonel, USAF
Dean
School of Systems and Logistics

2 Atch
1. Questionnaire
2. Return Envelope

PRIVACY STATEMENT

In accordance with paragraph 8, AFR 12-35, the following information is provided as required by the Privacy Act of 1974:

a. Authority:

(1) 5 U.S.C. 301, Departmental Regulations; and/or

(2) 10 U.S.C. 8012, Secretary of the Air Force, Powers, Duties, Delegation by Compensation; and/or

(3) DOD Instruction 1100.13, 17 Apr 68, Surveys of Department of Defense Personnel; and/or

(4) AFR 30-23, 22 Sep 76, Air Force Personnel Survey Program.

b. Principal Purposes. The survey is being conducted to collect information to be used in research aimed at illuminating and providing inputs to the solution of problems of interest to the Air Force and/or DOD.

c. Routine Uses. The survey data will be converted to information for use in research of management related problems. Results of the research, based on the data provided, will be included in written master's theses, and may also be included in published articles, reports or texts. Distribution of the results of the research, based on the survey data, whether in written form or presented orally, will be unlimited.

d. Participation in this survey is entirely voluntary.

e. No adverse action of any kind may be taken against any individual who elects not to participate in any or all of this survey.

Please circle or enter the appropriate response(s) for each of the following questions. Please do not consult any other individuals, texts, or regulations in answering the questions. They are designed to interpret your attitudes only.

1. What is your current grade?
   a. Master Sergeant
   b. Senior Master Sergeant
   c. Chief Master Sergeant

2. What is your DAFSC? _____

3. What is your highest education level?
   a. Non-high school graduate
   b. High school graduate or GED
   c. Less than two years college
   d. Two or more years college
   e. Bachelor's Degree or higher

4. How long have you been at your present duty station?
   a. 3 months or less
   b. 3 months - 12 months
   c. 1 year - 2 years
   d. 2 or more years

5. Which command are you now serving in?
   a. AFLC b. AFSC c. ATC d. MAC e. SAC f. AAC
   g. TAC h. PACAF i. USAFE j. Other (specify)_____

6. If you are now serving in PACAF, what country/state are you assigned?
   a. N/A, not in PACAF
   b. Korea
   c. Philippines
   d. Japan
   e. Hawaii
   f. Guam
   g. Other (includes Alaska Air Command)_____

7. If you are serving in USAFE, what country are you assigned?
   a. N/A, not in USAFE
   b. West Germany
   c. United Kingdom
   d. Netherlands
   e. Belgium
   f. Norway
   g. Italy
   h. Other_____

8. In which command was your last duty assignment?

   a. AFLC b. AFSC c. ATC d. MAC e. SAC

   f. TAC g. PACAF h. USAFE i. Other (specify)_____

9. What command do you feel best utilized the potential of senior NCOs?

   a. AFLC b. AFSC c. ATC d. MAC e. SAC

   f. TAC g. PACAF h. USAFE i. Other (specify)_____

10. If you were to be reassigned to a new duty station, in which command would you prefer this assignment?

    a. AFLC b. AFSC c. ATC d. MAC e. SAC

    f. TAC g. PACAF h. USAFE i. Other (specify)_____

11. Which one of the following statements best describes why you chose the above command for your next duty assignment?

    a. Geographical location of bases

    b. Familiarity with command operations and procedures

    c. Job attractiveness (variety, challenge, interesting work, etc.)

    d. Command mission (operational versus support or training, etc.)

    e. Other (specify)_____

12. In which functional area do you presently work?

    a. Resource and Requirements (R&R, R&L)

    b. Operations (other than R&R)

    c. Industrial Engineering

    d. Engineering and Environmental Planning

    e. Fire Department

13. What is your current job position?

    a. Material Controls Chief

    b. Fire Protection Chief

    c. O&M Superintendent

    d. Prime BEEF NCOIC

    e. O&M Shop Foreman

    f. Assistant Shop Foreman

    g. Unit Chief (not assigned to O&M shop)

    h. Assistant Unit Chief (not assigned to O&M)

    i. Other

14. How many people do you directly supervise?

a. None b. 1 c. 2

d. 3 e. 4 to 5 f. 6 to 8

g. 9 or more

15. Of those you supervise, approximately what percentage are military?

a. Not applicable b. 0 c. 25 percent

d. 50 percent e. 75 percent f. 100 percent

16. Do you think senior NCOs (master sergeant and above) are usually given jobs with less responsibility than they should have?

a. Strongly disagree

b. Disagree

c. Undecided

d. Agree

e. Strongly agree

17. Which of the following best describes your attitude toward retirement at 20 years of military service?

a. Not applicable. Have over 20 years service.

b. Definitely will remain on active duty beyond 20 years.

c. Probably will remain on active duty beyond 20 years.

d. Undecided.

e. Probably will retire at or soon after reaching 20 years.

f. Definitely will retire at or soon after reaching 20 years.

g. I will probably leave the service before 20 years of service.

18. How often do you think about quitting the Air Force while at your present job?

a. Never

b. Rarely

c. Sometimes

d. Often

e. Constantly

19. On a scale of "one" through "seven," how do you perceive the future level of senior NCO jobs in Base Civil Engineering?

1---------2---------3---------4---------5---------6---------7

Jobs will be more challenging and rewarding	About the same as today	Authority and job satisfaction will decline

---

The remainder of this survey is the Job Diagnostic Survey developed by J. Richard Hackman of Yale University and Greg R. Oldham of the University of Illinois.

J O B D I A G N O S T I C S U R V E Y:

SHORT FORM

This questionnaire was developed as part of a Yale University study of jobs and how people react to them. The questionnaire helps to determine how jobs can be better designed, by obtaining information about how people react to different kinds of jobs.

On the following pages you will find several different kinds of questions about your job. Specific instructions are given at the start of each section. Please read them carefully. It should take no more than 10 minutes to complete the entire questionnaire. Please move through it quickly.

The questions are designed to obtain <u>your</u> perceptions of your job and your <u>reactions</u> to it.

There are no "trick" questions. Your individual answers will be kept completely confidential. Please answer each item as honestly and frankly as possible.

Thank you for your cooperation.

For more information about this questionnaire and its use, please contact:

Prof. J. Richard Hackman
Department of Administrative Sciences
Yale University
New Haven, Connecticut 06520

OR

Prof. Greg R. Oldham
Department of Business Administration
University of Illinois
Urbana, Illinois 61801

OR

AFIT/LS
Wright-Patterson AFB OH 45433

SECTION ONE

This part of the questionnaire asks you to describe your job as objectively as you can.

Please do not use this part of the questionnaire to show how much you like or dislike your job. Questions about that will come later. Instead, try to make your descriptions as accurate and as objective as you possibly can.

A sample question is given below.

A. To what extent does your job require you to work with mechanical equipment?

1----------2---------3---------4---------5---------(6)---------7

Very little; the job requires almost no contact with mechanical equipment of any kind.

Moderately

Very much; the job requires almost constant work with mechanical equipment

You are to circle the number which is the most accurate description of your job.

If, for example, your job requires you to work with mechanical equipment a good deal of the time--but also requires some paperwork--you might circle the number six, as was done in the example above.

Turn the page and begin.

1. To what extent does your job require you to work closely with other people (either "clients" or people in related jobs in your own organization)?

1----------2----------3----------4----------5----------6----------7

Very little; dealing with other people is not at all necessary in doing the job.	Moderately; some dealing with others is necessary.	Very much; dealing with other people is an absolutely essential and crucial part of doing the job.

2. How much autonomy is there in your job? That is, to what extent does your job permit you to decide on your own how to go about doing the work?

1----------2----------3----------4----------5----------6----------7

Very little; the job gives me almost no personal "say" about how and when the work is done.	Moderate autonomy; many things are standardized and not under my control, but I can make some decisions about the work.	Very much; the job gives me almost complete responsibility for deciding how and when the work is done.

3. To what extent does your job involve doing a "whole" and identifiable piece of work? That is, is the job a complete piece of work that has an obvious beginning and end? Or is it only a small part of the overall piece of work, which is finished by other people or by automatic machines?

1----------2----------3----------4----------5----------6----------7

My job is only a tiny part of the overall piece of work; the results of my activities cannot be seen in the final product or service.	My job is a moderate-sized "chunk" of the overall piece of work; my own contribution can be seen in the final outcome.	My job involves doing the whole piece of work, from start to finish; the results of my activities are easily seen in the final product or service.

4. How much variety is there in your job? That is, to what extent does the job require you to do many different things at work, using a variety of your skills and talents?

1----------2----------3----------4----------5----------6----------7

Very little; the job requires me to do the same routine things over and over again.	Moderate variety	Very much; the job requires me to do many different things, using a number of different skills and talents.

5. In general, how <u>significant or important</u> is your job? That is, are the results of your work likely to significantly affect the lives or well-being of other people?

1----------2----------3----------4----------5----------6----------7

Not very significant; the outcomes of my work are <u>not</u> likely to have important effects on other people.	Moderately significant	Highly significant; the outcomes of my work can affect other people in very important ways.

6. To what extent do <u>managers or co-workers</u> let you know how well you are doing on your job?

1----------2----------3----------4----------5----------6----------7

Very little; people almost never let me know how well I am doing.	Moderately; sometimes people may give me "feedback;" other times they may not	Very much; managers or co-workers provide me with almost constant "feedback" about how well I am doing.

7. To what extent does <u>doing the job itself</u> provide you with information about your work performance? That is, does the actual <u>work itself</u> provide clues about how well you are doing--aside from any "feedback" co-workers or supervisors may provide?

1----------2----------3----------4----------5----------6----------7

Very little; the job itself is set up so I could work forever without finding out how well I am doing.	Moderately; sometimes doing the job provides "feedback" to me; sometimes it does not.	Very much; the job is set up so that I get almost constant "feedback" as I work about how well I am doing.

SECTION TWO

Listed below are a number of statements which could be used to describe a job.

You are to indicate whether each statement is an accurate or an inaccurate description of your job.

Once again, please try to be as objective as you can in deciding how accurately each statement describes your job--regardless of whether you like or dislike your job.

Write a number in the blank beside each statement, based on the following scale:

How accurate is the statement in describing your job?

1	2	3	4	5	6	7
Very Inaccurate	Mostly Inaccurate	Slightly Inaccurate	Uncertain	Slightly Accurate	Mostly Accurate	Very Accurate

____1. The job requires me to use a number of complex or high level skills.

____2. The job requires a lot of cooperative work with other people.

____3. The job is arranged so that I do not have the chance to do an entire piece of work from beginning to end.

____4. Just doing the work required by the job provides many chances for me to figure out how well I am doing.

____5. The job is quite simple and repetitive.

____6. The job can be done adequately by a person working alone--without talking or checking with other people.

____7. The supervisor and co-workers on this job almost never give me any "feedback" about how well I am doing in my work.

____8. This job is one where a lot of people can be affected by how well the work gets done.

____9. The job denies me any chance to use my personal initiative or judgment in carrying out the work.

___10. Supervisors often let me know how well they think I am performing on the job.

___11. The job provides me the chance to completely finish the pieces of work I begin.

___12. The job itself provides very few clues about whether or not I am performing well.

___13. The job gives me considerable opportunity for independence and freedom in how I do the work.

___14. The job itself is not very significant or important in the broader scheme of things.

SECTION THREE

Now please indicate how you personally feel about your job.

Each of the statements below is something that a person might say about his or her job. You are to indicate your own, personal feelings about your job by marking how much you agree with each of the statements.

Write a number in the blank for each statement, based on this scale:
How much do you agree with the statement?

1	2	3	4	5	6	7
Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly

____1. My opinion of myself goes up when I do this job well.

____2. Generally speaking, I am very satisfied with this job.

____3. I feel a great sense of personal satisfaction when I do this job well.

____4. I frequently think of quitting this job.

____5. I feel bad and unhappy when I discover that I have performed poorly on this job.

____6. I am generally satisfied with the kind of work I do in this job.

____7. My own feelings generally are not affected much one way or the other by how well I do on this job.

SECTION FOUR

Now please indicate how satisfied you are with each aspect of your job listed below. Once again, write the appropriate number in the blank beside each statement.

How satisfied are you with this aspect of your job?

1	2	3	4	5	6	7
Extremely Dissatisfied	Dissatisfied	Slightly Dissatisfied	Neutral	Slightly Satisfied	Satisfied	Extremely Satisfied

____1. The amount of job security I have.

____2. The amount of pay and fringe benefits I receive.

____3. The amount of personal growth and development I get in doing my job.

____4. The people I talk to and work with on my job.

____5. The degree of respect and fair treatment I receive from my boss.

____6. The feeling of worthwhile accomplishment I get from doing my job.

____7. The chance to get to know other people while on the job.

____8. The amount of support and guidance I receive from my supervisor.

____9. The degree to which I am fairly paid for what I contribute to this organization.

___10. The amount of independent thought and action I can exercise in my job.

___11. How secure things look for me in the future in this organization.

___12. The chance to help other people while at work.

___13. The amount of challenge in my job.

___14. The overall quality of the supervision I receive in my work.

SECTION FIVE

Listed below are a number of characteristics which could be present on any job. People differ about how much they would like to have each one present in their own jobs. We are interested in learning how much you personally would like to have each one present in your job.

Using the scale below, please indicate the degree to which you would like to have each characteristic present in your job.

NOTE: The numbers on this scale are different from those used in previous scales.

4	5	6	7	8	9	10
Would like having this only a moderate amount (or less)			Would like having this very much			Would like having this extremely much

_____1. High respect and fair treatment from my supervisor.

_____2. Stimulating and challenging work.

_____3. Chances to exercise independent thought and action in my job.

_____4. Great job security.

_____5. Very friendly co-workers.

_____6. Opportunities to learn new things from my work.

_____7. High salary and good fringe benefits.

_____8. Opportunities to be creative and imaginative in my work.

_____9. Quick promotions.

____10. Opportunities for personal growth and development in my job.

____11. A sense of worthwhile accomplishment in my work.

APPENDIX B

SPSS COMPUTER PROGRAM

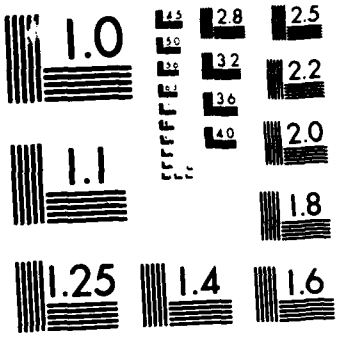
```
100=RUN NAME        ANALYSIS OF SENIOR NCO JOB POSITIONS
110=VARIABLE LIST   RANK,CURCOM,POTCOM,COMPREF,REASON,WHY,JOBLOC,
120=                JOBLEV,RESPON,RETIRE,QUIT,FUTNCO,
130=                Q13 TO Q30,SURVEY#
140=MISSING VALUES  RANK TO SURVEY#(0)
150=INPUT MEDIUM    CARDS
160=INPUT FORMAT    FIXED(30F1.0,1X,F3.0)
170=N OF CASES      UNKNOWN
180=IF              (JOBLEV EQ 4)JOBPOS=1
190=IF              (JOBLEV EQ 3)JOBPOS=2
200=IF              (JOBLEV EQ 6 OR JOBLEV EQ 8)JOBPOS=3
210=IF              (JOBLOC EQ 5 AND (JOBLEV EQ 2 OR JOBLEV EQ 7))JOBPOS=4
220=IF              (JOBLOC EQ 1 AND JOBLEV EQ 7)JOBPOS=5
230=IF              (JOBLOC EQ 4 AND JOBLEV EQ 7)JOBPOS=5
240=IF              (JOBLOC EQ 3 AND JOBLEV EQ 7)JOBPOS=5
250=IF              (JOBLOC EQ 6 AND JOBLEV EQ 7)JOBPOS=5
260=IF              (JOBLOC EQ 1 AND JOBLEV EQ 7)JOBPOS=5
270=IF              (JOBLOC EQ 2 AND JOBLEV EQ 7)JOBPOS=5
280=IF              (JOBLOC EQ 2 AND JOBLEV EQ 5)JOBPOS=5
290=VALUE LABELS    RANK (1)MSGT(2)SMSGT(3)CMSGT/
300=                POTCOM (1)AFLC(2)AFSC(3)ATC(4)MAC(5)SAC(6)TAC(7)PACAF
310=                (8)USAFE(9)OTHER/
320=                JOBPOS (1)PBNCO(2)O&M SUPER(3)ASSIST NCOIC
330=                (4)FIRE DEPT SUPER(5)UNIT SUPER/
340=COMPUTE         Q70=(Q15+Q18+(8-Q21))/3
350=COMPUTE         Q71=(Q16+Q22+(8-Q27))/3
360=COMPUTE         Q72=(Q14+Q24+(8-Q19))/3
370=COMPUTE         Q73=(Q13+Q26+(8-Q23))/3
380=COMPUTE         Q74=(Q17+Q20+(8-Q25))/3
390=COMPUTE         Q75=(Q28+Q30+(8-Q29))/3
400=COMPUTE         Q76=((Q70+Q71+Q72)/3)*Q73*Q74
410=VAR LABELS      Q70 SKILL VARIETY/Q71 TASK SIGNIFICANCE/
420=                Q72 TASK IDENTITY/Q73 AUTONOMY/Q74 FEEDBACK/
430=                Q75 SATISFACTION/Q76 MOTIVATION POTENTIAL SCORE
440=FREQUENCIES     GENERAL=RANK,POTCOM,RESPON,FUTNCO,JOBPOS
450=OPTIONS         3,8,9
460=STATISTICS      ALL
470=READ INPUT DATA
480=BREAKDOWN       Q70 TO Q76 BY JOBPOS,POTCOM
490=OPTIONS         2
500=READ INPUT DATA
510=ONEWAY          Q70 TO Q76 BY JOBPOS(1,5)/
520=                RANGES=DUNCAN
530=OPTIONS         6
540=STATISTICS      1
590=FINISH
```

APPENDIX C

SURVEY DATA

AD-A134 469 A COMPARISON OF JOB CHARACTERISTICS FOR SENIOR NCOS (NONCOMMISSIONED OFFI.. (U) AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL OF SYST.. H W TUTTLE 2/2

UNCLASSIFIED SEP 83 AFIT-LSSR-27-83 F/G 5/9 NL



Data Format

Column	Survey Question
1	Demographic question 1
2	" " 5
3	" " 9
4	" " 10
5	" " 11
6	" " 11
7	" " 12
8	" " 13
9	" " 16
10	" " 17
11	" " 18
12	" " 19
13	Section One (JDS) question 2
14	" " " 3
15	" " " 4
16	" " " 5
17	" " " 7
18	Section Two (JDS) question 1
19	" " " 3
20	" " " 4
21	" " " 5
22	" " " 8
23	" " " 9
24	" " " 11
25	" " " 12
26	" " " 13
27	" " " 14
28	Section Three (JDS) question 2
29	" " " 4
30	" " " 6

100=1875122925247677662717172716 001
110=1877305245356557553327222323 002
120=1844132554136677672717161714 003
130=1811302535146617721475371716 004
140=1877202541465777761716161656 005
150=1863304745453456556527323215 006
160=1855305956474467562537272313 007
170=1882122922144537653657361616 008
180=1833121951265356455527355526 009
190=2324102341244765654536666415 010
200=1877102323245555555535353526 011
210=1897105746466677433355366652 012
220=2876102341236677671617261617 013
230=1903402323146567662623233626 014
240=2899302351375677772627261617 015
250=2857102321236366662656262616 016
260=1854101442265545533456553526 017
270=0375102341326566565627262616 018
280=1075102635346646512355244436 019
290=1844201721345544656676263655 020
300=1877101751346446767727161616 021
310=3899404051456276255626226754 022
320=2355304841445566663616322316 023
330=2302102321354634455535333335 024
340=3833202941235656566631666626 025
350=1377102341345555576666556526 026
360=1854102525255644552623262536 027
370=1079105956452223233566336256 028
380=2066202542247661521667171767 029
390=1877505955344467651717142005 030
400=1922340943165667532637362513 031
410=1955402541127777771567171717 032
420=2955102325556456565327142636 033
430=1866401945355566655633332545 035
440=1902302526146567543627152616 034
450=1984405846335667562427272516 036
460=1999304831374466583556554354 037
470=1855401744354233456655655626 038
480=1855405834324146453326635511 039
490=1937102531455656452436364315 040
500=2906402341267767671617171717 041
510=1986102941227777661617171727 042
520=1963303943246656662616262616 043
530=1955202522356734052735161627 044
540=1875105243335657551512522216 045
550=1916003746366343452572566675 046
560=1376105923326575561637132716 047

570=1806204751571121155174757371 048
580=288820233135586765253765262636 049
590=2366303321226567663536362636 050
600=19773014515634664725311111266 051
610=19851017412474443676261212171 052
620=39841029211176766726161627171 053
630=29838059513766776716171626171 054
640=18763025443657676625573616165 055
650=29823023452575676665171237172 056
660=19854029452467576626672627162 057
670=18942025462765575654572536471 058
680=28000023123674477717171717173 059
690=19111039563225776675176236155 060
700=19662029241400000533576635151 061
710=19552079305451171111762166417 062
720=19333023413612271151676471126 063
730=29884052114624555555662533326 064
740=19771025452457675516271616161 065
750=19553039433554565655262335262 066
760=19022023464432552454175111114 067
770=19664023553545545366372322263 068
780=19664017533543465563365333245 069
790=19551026464444463433364444444 070
800=38961029423454666525272535253 080
810=19741025314576576517571516165 081
820=28731068453455477627376716162 083
830=19573029221176677667736663717 084
840=18773025213366676616573616671 085
850=18063020515653474573677262217 086
860=19884017422376666525372626255 087
870=29663023414544364654563553434 088
880=29773023243456665556261656163 089
890=18773052522777777716171757164 100
900=18673025553776776626661662262 091
910=29561023211265666533271526172 101
920=29683029212177777716171617161 102
930=19883059231464366626571726162 103
940=19862052263464564677371725425 104
950=19660023342764666525462066462 105
960=29441023564654574355576523227 106
970=19551049565777156116771717617 107
980=19221079434774672724373155256 108
990=19884025421266767676361716171 109
1000=19881049433477677616171717171 110
1010=19663052431455474514571657161 111
1020=19333019454444774656275655336 112
1030=09334025323465655554562556656 113

1040=1878302735207656643647262626 114
1050=1985204742414266656626212321 62 115
1060=2966102321347657552757161716 27 116
1070=2956301331574676661616731466 77 117
1080=1966405916473457662557465515 57 118
1090=1844004936532477666126522221 11 120
1100=1806302325226566666616161517 16 121
1110=1966105211136477763617246477 27 122
1120=1982105921355557666616141415 46 123
1130=1988205222275556662627162713 46 124
1140=1977301721217777563627172717 17 125
1150=1955401941156446545577112516 26 126
1160=1966302546445566555637363526 47 127
1170=1904102631445525427675675644 41 128
1180=2994202312547171177111117772 72 129
1190=1895102523145677664617123516 16 130
1200=3983102841326566421616132616 26 131
1210=1808102945145445653616162616 26 132
1220=1777301924246667655257262626 46 133
1230=1865204823136766661616162727 16 134
1240=1932101751457777476766171416 67 135
1250=2983302323235646651617266525 25 136
1260=1804106826116676571717171717 17 138
1270=1974405231246646463557153717 37 139
1280=1988304742236577566527322216 16 140
1290=1845104845346776751656172755 56 140
1300=1987303711357767666637262626 56 141
1310=1933305841365465656262335265 5 142
1320=0985345224235577656627333326 66 143
1330=1988305854376227553677135666 26 144
1340=1955202943336467565537223626 46 145
1350=1855102521146666561717171717 16 146
1360=1055303713315767771617172616 46 147
1370=1837104745446545555352623271 636 148
1380=1996104745364756661616261617 26 185
1390=1974203742326567562522562626 149
1400=1995105224355777672517163616 56 186
1410=2989302921136676671717171617 17 187
1420=1955302443362213226166326232 65 188
1430=1955204925255333436353335553 66 189
1440=1988305921217767662727 16 21626 190
1450=1956101745176577772717161717 11 191
1460=1957202323354377567527362676 26 192
1470=2985305241346665556526344525 35 193
1480=2808102351147777771717177171 1 194
1490=1937402323256577663527132617 17 195
1500=2872302945254677662627263516 26 196

1510=287130234136666655262616261726 197
1520=13661025213443463225562625252 5 198
1530=19771369212165576717271617171 7 200
1540=29583023233155454556534646645 4 201
1550=19443017432442453336365425232 55 202
1560=19433052421677677636171617171 7 203
1570=19631017543533364662566262226 2 204
1580=19553059454475264725371634217 1 205
1590=18223025252176655655671626162 6 206
1600=18441523253445676526272524162 6 207
1610=19225047432265543653251556533 4 208
1620=19893025262465746626272626255 5 209
1630=18773052451377676626261626162 6 211
1640=38852052454466776635271516164 6 212
1650=19044058564751475545743445127 4 213
1660=18763052511577477517371717171 6 214
1670=18441025353366456656561516262 6 215
1680=19852039231665666617171716162 6 216
1690=39881023213467775277131727272 7 217
1700=19881052213367645615172757163 6 218
1710=19443017453466676666262626162 6 219
1720=19950019133444644555263636346 5 220
1730=39391327423366675635172626553 6 221
1740=29553027513753775665176223164 3 222
1750=19855058464635655622662623263 6 223
1760=19791019411433576656172223762 6 224
1770=29841023421224666633161516171 6 225
1780=19333029466465463363766367326 2 226
1790=18775048142336257616665622171 6 228
1800=18444058414577777761772723165 6 229
1810=18772058331367577716571634121 6 230
1820=29443047453475666626262626241 7 231
1830=08552035443477477315373737262 6 232
1840=18331029263567776716171716165 6 233
1850=19220039213665744463352265445 3 234
1860=29662037243337676616273622135 6 236
1870=09800020022255665525171656162 6 237
1880=18552017413677772771171167122 6 238
1890=08362023211262676636271317161 6 239
1900=10553025312565676656271726162 6 240
1910=18324067413476677777371617172 7 241
1920=19500029515751161111177717775 67 242
1930=28990028214556664656262535236 4 243
1940=18773017433463664553272565162 6 244
1950=18772025211075777717171717171 7 245
1960=23523025454534474563576251136 3 246

1970=37552023413234674656171242162 6 247
1980=29873023212454675556172526162 6 248
1990=19770029361454766556562665162 6 249
2000=19001019263656533422522636362 6 250
2010=18742037423265675625252256262 6 149
2020=18771014443466776616263616164 6 150
2030=28000048411455676665171626172 6 151
2040=13831025453554674554373356262 5 152
2050=18771025251475776756271336271 7 153
2060=18622017551443434563575363553 5 154
2070=19772025443732752772174124574 4 155
2080=28741059214654564643273543155 6 156
2090=28741049523777777726171767166 7 157
2100=19841017411455566636163535153 5 159
2110=28113017415466665536362656234 6 158
2120=19662017464724464331757151547 4 160
2130=19333023441451335255533323332 5 161
2140=19663023451465456556262526262 6 162
2150=19573023522376776756171627172 6 163
2160=29801252413477575756171526162 6 164
2170=28773052211475576757171315163 6 166
2180=19083023512057666615271625171 6 167
2190=28953027511277777771717171716 8 168
2200=38090023515766676626673636166 6 169
2210=18773025123266575555356262636 170
2220=19851045233455777636263555262 6 171
2230=28762023441433565375365356232 2 172
2240=29332052231265675566271617172 7 173
2250=28731023453347676776172615231 3 174
2260=19662059251574676666171727171 6 175
2270=18661052422665566656265556342 5 176
2280=18662019111777777717171717177 177
2290=38771013314455776567171416164 6 178
2300=18774059541665775753171216124 5 179
2310=18700049462742521562226262644 4 180
2320=28761046433463464563263233265 6 181
2330=29743049414643655556262535226 6 182
2340=18041025524634774616172626136 3 183
2350=18765052143562773765172244363 6 184
2360=39663029215066575563675556346 3 090
2370=18771014443466776616263616164 6 150
2380=18554047464526455632263231356 2 199
2390=19831025421166676626271616161 6 210
2400=19663052521277774626171726161 6 227
2410=19883047512775776666171617171 6 235
2420=19551049514543334367225533241 62 251
2430=39864028423456676626171613162 7 252
2440=19562025433676766162717261627 253

2450=2707102351333377565617555561636 254
2460=19554025414465566665623352466 255
2470=1882102944476677655566355523356 256
2480=2866205241356447535535723561635 257
2490=1866132726227776662527272717727 258
2500=1985305826256667552357266517727 259
2510=1900302833376424534435645533326 260
2520=1877205946146435553425324625626 261
2530=1822302754471351423576753171717 263
2540=1866304955356656651627111626626 264
2550=1877102633136657651727271726626 265
2560=1882302655455747662757262616555 266
2570=2807102341333445553536535225 267
2580=1988105921217657776737171717 268
2590=0955202743336566465557252616 269
2600=2877302343145667552526253426 270
2610=2856104741255226256366626226 271
2620=1925102336255536547257667566 272
2630=1836101951345332555575636542 273
2640=1846101841464233422362623362 274
2650=3873103745255565553515161526 276
2660=1866504955246776562526273626 277
2670=1994305241366767656666233626 278
2680=1876202541554366356226335321 279
2690=1859303855373757465217523263 280
2700=1855207943276425435566233320 281
2710=1922302922336777563616171627 282
2720=2986103735147667553627261626 283
2730=1893203943253566652526562535 284
2740=1057102325236546422556253626 285
2750=1955304745267777766617161716 286
2760=1982105245356436556637153616 287
2770=1876204844273446622666662626 289
2780=3833302741362365323566652222 290
2790=1988401724226277563616252517 291
2800=1955232322156656652626362615 292
2810=0986122524116567667371617171 293
2820=1988105234137647752617172517 294
2830=1980235814167667671517171712 295
2840=2873205241364357652627152726 296
2850=1955125216255677576756263625 297
2860=2877152321126477677617152617 298
2870=2844302752353211513372655132 299
2880=3984305221377676662617171727 300
2890=2988305243267677662637262726 301
2900=1988305923235354563427262626 302
2910=1984102741426566752175235335 303

2920=2933304741354433462656152232l7 304
2930=2966101741337667651417161716 26 305
2940=2904101721245364663264223527 26 306
2950=1901105222136566566315126625l2 307
2960=1986301921226667661637176616 16 308
2970=2986102343346556553636323525 56 309
2980=1922301745346667533267535516 26 310
2990=1183105221346555662557263626 26 312
3000=1977101733145577561617163617 17 327
3010=1955202326236343212266266626 26 328
3020=1882305244236577661627162626 26 329
3030=1938205242157577653617162717 16 330
3040=3899302351475577566567266512 76 331
3050=2877304741265054453626262616 26 330
3060=1852105812135667561117171617 17 333
3070=1953101722444136557557122512 62 334
3080=1944404946446635422274244542 64 335
3090=2983105252277577662717171617 26 336
3100=2933102321345547562656153717 47 337
3110=1955302351863677466527652652 77 338
3120=1938302514324777366216366322 47 326
3130=1988102344256677777537356516 56 339
3140=1706102521246466556566252626 46 340
3150=1922102925357737771767171716 46 341
3160=1985202533246457655637151616 16 342
3170=2982402321246657453317255516 26 343
3180=1988402524344667562157565527 17 344
3190=2982104726444465633555535566 71 345
3200=1988305924126577567527252616 17 346
3210=2987305221236366552636252626 26 347
3220=0966205234156647675517756517 66 348
3230=1955125825245667552617162616 16 349
3240=3769125241336566563616222616 26 350
3250=1954105925146667666657162516 26 351
3260=1908102625271747645271716174 6 352
3270=2986102212336677761617262616 26 353
3280=1999304943346566667626271727 27 354
3290=1993104943336537456526265615 24 355
3300=1951104734445277163217335312 52 356
3310=1987305246266577676517123617 27 357
3320=2935451751266566651617162616 17 358
3330=1955301941335644552557372512 61 359
3340=1943101751976355667717222516 26 360
3350=1985301742275756551217262616 16 361
3360=0874102642273117713777167717 12 362
3370=1932105211345557656637231317 27 363
3380=1783502515325663756722272615 26 364
3390=1834102651355676553636362532 45 365
3400=1848102525444454444534355653 63 366

3410=19222025251365665535172626271 6 367
3420=19741017415761354357671156217 4 313
3430=29833052213276676526171621165 6 314
3440=29553023553565344332652336535 6 315
3450=19581029343411724162663366326 6 316
3460=19824058512666776672571667144 4 317
3470=19773023522466766716171616161 6 318
3480=29553017412476675554262356272 7 319
3490=19553429554533333335566662211 76 320
3500=39939328411475776777171612171 7 321
3510=18553025454477745615661717527 3 322
3520=19663025332665334663552526324 2 323
3530=19302358442475677617171771776 46 324
3540=39831028252275475655111337172 6 325

SELECTED BIBLIOGRAPHY

A. REFERENCES CITED

1. Albanese, Robert. 1981. Managing Toward Accountability for Performance, 3d ed. Homewood IL: Richard D. Irwin, Inc.

2. Baird, Lloyd S. 1976. "Relationship of Performance to Satisfaction in Stimulating and Nonstimulating Jobs," Journal of Applied Psychology, 61: 721-727.

3. Dunham, Randall B. 1976. "The Measurement of Dimensionality of Job Characteristics," Journal of Applied Psychology, pp. 404-409.

4. _____, Ramon J. Aldag, and Arthur P. Brief. 1977. "Dimensionality of Task Design as Measured by the Job Diagnostic Survey," Academy of Management Journal, pp. 209-223.

5. Evans, M. G., M. N. Kiggundu, and R. J. House. 1979. "A Partial Test and Extension of the Job Characteristics Model of Motivation," Organizational Behavior and Human Performance, pp. 354-381.

6. Greene, S. B., A. Armenakis, L. Marbert, and Arthur Bedeian. 1979. "Evaluation of the Response Format and Scale Structure of the Job Diagnostic Survey," Human Relations, 32: 181-188.

7. Griffin, W. Ricky. 1982. "Perceived Task Characteristics and Employee Productivity and Satisfaction," Human Relations, 35 (10): 927-938.

8. _____. 1981. "A Longitudinal Investigation of Task Characteristics Relationships," Academy of Management Review, 24: 99-113.

9. _____, Ann Welsh, and Gregory Moorhead. 1981. "Perceived Task Characteristics and Employee Performance: A Literature Review," Academy of Management Review, pp. 655-663.

10. Hackman, J. Richard, and Greg R. Oldham. 1975. "Development of the Job Diagnostic Survey," Journal of Applied Psychology, pp. 395-403.

11. _____. 1976. "Motivation through the Design of Work: Test of a Theory," Organizational Behavior and Human Performance, pp. 250-279.

12. Harnett, Donald L. 1982. Statistical Methods, 3d ed. Reading MA: Addison-Wesley Publishing Company, Inc.

13. Katz, Ralph. 1978. "The Influence of Job Longevity on Employee Reactions to Task Characteristics," Human Relations, 31: 703-725.

14. Kiggundu, M. N. 1980. "Empirical Test of the Theory of Job Design," Human Relations, 33: 339-351.

15. Locke, Edwin A. 1970. "Job Satisfaction and Job Performance: A Theoretical Analysis," Organizational Behavior and Human Performance, 5: 484-500.

16. Mitchell, Terence R. 1982. "Motivation: New Directions for Theory, Research, and Practice," Academy of Management Review, 7: 80-88.

17. Norusis, Marija J. 1982. SPSS Introductory Guide: Basic Statistics and Operations. Chicago IL: McGraw-Hill Book Company.

18. Oldham, G. R., J. Richard Hackman, and Jon L. Pierce. 1976. "Conditions Under Which Employees Respond Positively to Enriched Work," Journal of Applied Psychology, pp. 395-403.

19. O'Reilly, Charles A., G. Nicholas Parlette, and Joan R. Bloom. 1980. "Perceptual Measures of Task Characteristics: The Biasing Effects of Differing Frames of Reference and Job Attitudes," Academy of Management Journal, 23: 118-131.

20. Peters, Captain Robert L., USAF, and First Lieutenant Martin F. Duke, USAF. 1982. "Analysis of Senior Noncommissioned Officer Job Positions in Base Level Civil Engineering." Master's thesis. LSSR 58-82, AFIT/LS, Wright-Patterson AFB OH. AD A123048.

21. Roberts, K. H., and W. Glick. 1981. "Job Characteristics Approach to Task Design: A Critical Review," Applied Psychology, 66: 193-217.

22. Sutermeister, Robert A. 1971. "Employee Performance and Employee Need Satisfaction--Which Comes First?," California Management Review, 13: 43-47.

23. Wall, Toby D., Chris W. Clagg, and Paul R. Jackson. 1978. "An Evaluation of the Job Characteristics Model," Journal of Occupational Psychology, 51: 183-196.

B. RELATED SOURCES

Davis, Keith. 1981. Human Behavior at Work: Organizational Behavior, 6th ed. Chicago IL: McGraw-Hill Book Company.

Motowidlo, J. Stephen, and Walter C. Borman. 1979. "Relationships Between Military Moral, Motivation, Satisfaction and Unit Effectiveness," Journal of Applied Psychology, 63: 47-52.

O'Brien, Gordon F. 1982. "The Relative Contribution of Perceived Skill-Utilization and Other Perceived Job Attributes to the Prediction of Job Satisfaction: A Cross-Validation Study," Human Relations, 35 (3): 219-237.

Pierce, Jon L., and Randall B. Dunham. 1976. "Task Design: A Literature Review," Academy of Management Review, 1 (4): 83-95.

Rousseau, Denise M. 1977. "Technological Differences in Job Characteristics, Employee Satisfaction, and Motivation: A Synthesis of Job Design Research and Sociotechnical Systems Theory," Organizational Behavior and Human Performance, 19: 18-42.

Schwab, D. P., and Larry L. Cummings. 1970. "Theories of Performance and Satisfaction: A Review," Industrial Relations, 9: 408-430.

Sims, Henry P., Andrew D. Szilagyi, and Robert T. Keller. 1976. "The Measurement of Job Characteristics," Academy of Management Journal, 19: 195-211.

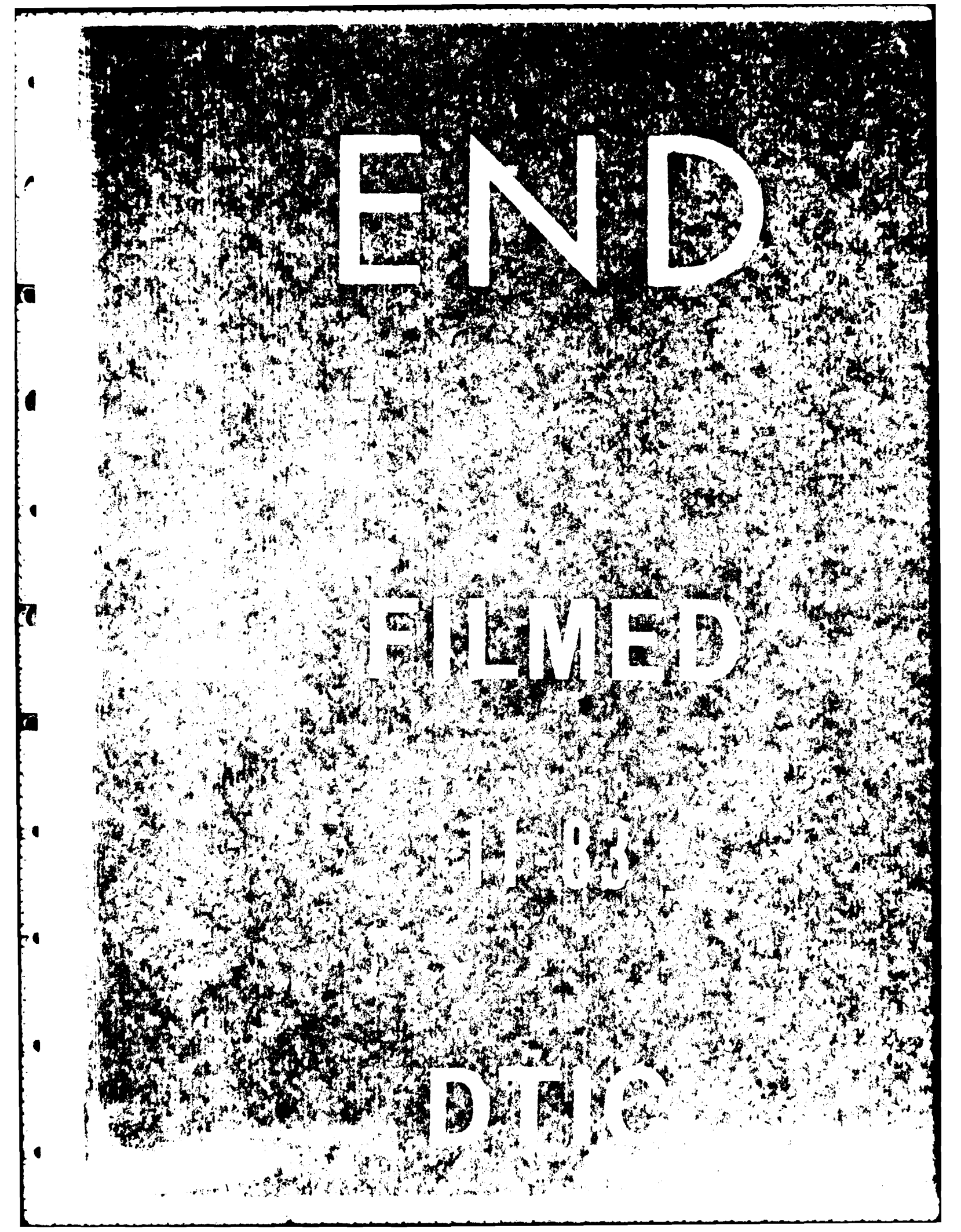
Slocum, John W. 1970. "Performance and Satisfaction: An Analysis," Industrial Relations, 5: 431-436.

Steers, Richard M. 1975. "Effects of Need for Achievement on the Job Performance-Job Attitude Relationship," Journal of Applied Psychology, 60 (6): 678-682.

_____, and Daniel G. Spencer. 1977. "The Role of Achievement Motivation in Job Design," Journal of Applied Psychology, pp. 472-479.

Wanous, John P., and Edward E. Lawler, III. 1972. "Measurement and Meaning of Job Satisfaction," Journal of Applied Psychology, 56 (2): 95-105.

Wanous, John P. 1974. "A Causal-Correlational Analysis of the Job Satisfaction and Performance Relationship," Journal of Applied Psychology, 59 (2): 139-144.


END
FILMED
1-83
DTIC